eighty eight
nord
STAGE

USER MANUAL

SOFTWARE VERSION 1.1x

Clavia

CAUTION *AVIS*

RISK OF ELECTRIC SHOCK
DO NOT OPEN
RISQUE DE SHOCK ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC
SHOCK DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED PERSONNEL.
ATTENTION:POUR EVITER LES RISQUES DE CHOC
ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE.
AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L´USAGER.
CONFIER L´ENTRETIEN AU PERSONNEL QUALIFE.
AVIS: POUR EVITER LES RISQUES D´INCIDENTE OU
D´ELECTROCUTION, N´EXPOSEZ PAS CET ARTICLE A LA PLUIE
OU L´HUMIDITET.

The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec le point de flèche à l´intérieur d´un triangle équilatéral est utilisé pour alerter l´utilisateur de la présence à l´intérieur du coffret de "voltage dangereux" non isolé d´ampleur suffisante pour constituer un risque d´éléctrocution.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Le point d´exclamation à l´intérieur d´un triangle équilatéral est employé pour alerter l´utilisateur de la présence d´instructions importantes pour le fonctionnement et l´entretien (service) dans le livret d´instructions accompagnant l´appareil.

Instructions pertaining to a risk of fire, electric shock or injury to persons.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Warning - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions and observe the graphic symbols above before using the product.

2. Do not use this product near water - for example near a bathtub, washbowl, kitchen sink, in a wet basement, near or in a swimming pool, a swamp or the like.

3. This product should be used only with a cart or a stand that is recommended by the manufacturer.

4. This product, either alone or in combination with an amplifier and headphones or speakers may be perfectly capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

5. The product should be located so that its location or position does not interfere with or obstruct its normal flow of ventilation.

6. The product should be located away from heat sources such as radiators, heat registers or other products that produce heat.

7. The product should be connected to a power supply only of the type described in these operation instructions or as marked on the product.

8. The power supply cord of the product should be unplugged from the outlet when the product is left unused for a long period of time.

9. Care should be taken so that objects do not fall, or liquids are not spilled into the enclosure through openings.

10. The product should be serviced by qualified service personnel when:

A. The power supply cord has been damaged; or
B. Objects have fallen or liquids have been spilled
 onto the product; or
C. The product has been exposed to rain; or
D. The product does not appear to operate normally or
 exhibits a marked change in performance; or
E. The product has been dropped or the enclosure
 has been damaged.

11. Do not attempt to service the product beyond those means described in this operating manual. All other servicing should be referred to qualified service personnel.

$C\epsilon$

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1. Introduction

Welcome

We'd first like to thank you for purchasing the Nord Stage Eighty Eight! Clavia's goal when developing the Nord Stage was to create a flagship stage instrument encompassing the whole range of Clavia's expertise. Building on the success of the Nord Electro, the Nord Stage incorporates the best emulations of traditional electromechanical/acoustic keyboard instruments on the market as well as a synthesizer section designed for maximum ease of use, yet offering wide sonic possibilities.

Nord Stage features outstanding classic keyboard sounds with true feel, from natural keyboard response to authentic sound. A medium weighted hammer action 88 note keyboard makes this instrument the largest in Clavia's range, yet it weighs only 18,5 kilos which is an achievement in itself.

To make a great tool you have to put all the focus on a few things, and that's what we did with the Nord Stage. Think about it, the *best* tool isn't a Swiss army knife.

Nord Stage Eighty Eight has the following main features:

- Organ section with faithful reproductions of three classic models; B-3 (Hammond), V-Type (Vox Continental) and F-Type (Farfisa).

- Piano section with concert grand/upright acoustic pianos, Rhodes and Wurlitzer electric pianos, Clavinet, and electric grand.

- Synth section with subtractive, FM and wavetable synthesis.

- Comprehensive effects section.

- A medium weighted hammer action 88 note keyboard with Aftertouch.

- An Extern section for controlling external MIDI instruments.

- A Morph feature for applying multiple parameter changes to a sound with controllers.

- Splits and layers are easily set up by assigning instruments to Keyboard Zones.

But that's not all. There are two independent Panels "A" and "B", that can have their own settings. This means that you have access to six instrument sections and two independent effect sections! Amongst other things, this allows for "dual manual" B-3 organ emulation.

About the Owner's Manual

The manual is arranged mainly as a reference manual. In many cases you'll get tips on how to practically use the functions, alone and also together with other functions. Every time the manual wants your attention to an object on the Stage, the name of that object will be printed **LIKE THIS,** e.g. 'press the **STORE** button'. The LCD display on the Nord Stage is always referred to as the **DISPLAY**. Whenever there is a reference to the 'keyboard', that reference also applies to any incoming MIDI note messages.

Reading the manual in Adobe Acrobat Reader

This manual is also available in the digital PDF-file format. It can be downloaded, free of charge, from Clavia's web site at http://www.clavia.se. When reading the manual as PDF-file, you will need Adobe Acrobat Reader 4.0 or later. This program can be downloaded, free of charge, at http://www.adobe.com.
With Adobe Acrobat Reader it is possible to use special navigation features like hyperlinks. This means that you can click with the mouse on a word or sentence and automatically get to the location indicated by the word/sentence. To better show what words or sentences are hyperlinked in this manual, these words are written in magenta.

Clavia on the Internet

If you have access to the Internet, you're very welcome to visit http://www.clavia.se. There you will find the latest information about Nord Stage and other Clavia products. In the future you'll also be able to download new Nord Stage sounds and software upgrades, free of charge.

2. OVERVIEW

THE NORD STAGE FRONT PANEL

Master
Level/Rotor
effect section
    Organ section   *Piano section*   *Program section*   *Synth section*   *Extern section*   *Effects section*
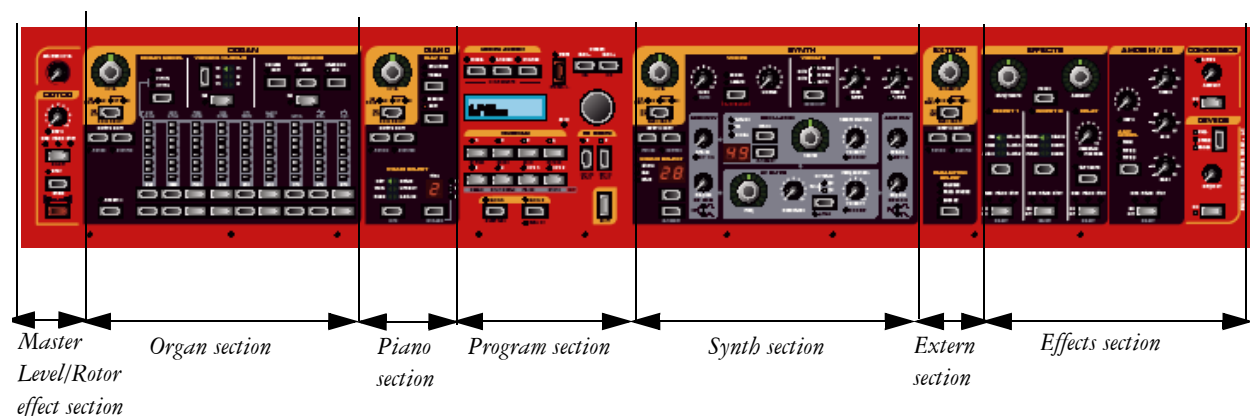
THE PROGRAM SECTION

The central Program section is where you select and store Programs, access System parameters, activate keyboard zones for splits and layers, and assign Morphing functions. See "The Program section" on page 16 for details.

MASTER LEVEL/ROTOR SECTION

The leftmost front panel section contains a Master Level control and a rotary speaker simulator effect. The **MASTER LEVEL** knob controls the overall output level for all four **CH OUT** jacks and the **HEAD-PHONES** output.

The Rotor effect section is logically placed close to the organ section (as rotary speaker effects are most commonly used with organ sounds), but can be applied to any instrument section just like the other effects. See "The Rotor section" on page 49

THE ORGAN SECTION

The Organ section in the Stage features emulations of three classic organ models; a Hammond B-3, a Vox Continental II (V-Type) and a Farfisa Compact DeLuxe (F-Type). See "The Organ Section" on page 21.

THE PIANO SECTION

The piano section in Nord Stage comprises various multi-sampled piano instruments. Nord Stage utilizes advanced multi-level sample playback, catching every nuance from soft to hard key strokes. Nord Stage comes right out of the box with ten classic piano instruments stored in Flash memory. The big advantage with Flash memory is that you can replace instruments with new ones and that no backup battery is required. The Stage also sports a USB interface for quick and easy download of new piano sounds. See "The Piano section" on page 27.

The Synth section

The Synth section has been designed for maximum ease of use in live situations. It is basically utilizes standard subtractive synthesis but also incorporates FM and wavetable synthesis.
See "The Synth section" on page 31.

The Extern section

The Extern section controls an external MIDI instrument. You can use the **PARAMETER** knob to control various parameters on the external device. You can also assign the external instrument to any Keyboard Zone, just like the built-in instruments! See "The Extern section" on page 57.

The Effects section

Here you'll find the numerous effects and modulations you can use to add that extra flavour to your sounds. See "The Effects" on page 44.

The Keyboard

The keyboard of Nord Stage features 88 fully weighted keys for optimal feel and response with piano instruments. For organ sounds there is also a fast trigger response option which closely mimics the feel of a real organ.

The keyboard can be split into three Keyboard Zones to which any instrument section can be freely assigned. Assigned Keyboard Zones are saved with a Program. See "Keyboard Zones and Dual Panel setups" on page 50.

About Knobs & Buttons

The knobs

There are two types of knobs on the Nord Stage:

- Rotary Encoders that show the position with green LED indicators.
  These always reflect the "true" value, and can also be controlled using the Morph function (see "About Morph Assign" on page 54).

- Other knobs are of potentiometer type. This means that when you begin to edit a Program the values of the parameters can be totally different from the knobs physical positions. As soon as you begin turning a knob, the parameter value will 'snap' to the knob's physical position. This could generate drastic changes to the sound but that's normal.

The buttons

There are three types of buttons for editing sounds on the Nord Stage:

Selector buttons

Press the **SELECTOR** button repeatedly to select between options printed next to the corresponding triangular LED (see figure).

On/Off buttons

The **ON/OFF** buttons have a LED next to them to indicate the status.

Drawbar buttons

The **DRAWBAR** buttons are special in the way that they auto-increment/decrement the corresponding parameter when held. I.e. if you hold a **DRAWBAR** button the corresponding drawbar parameter will continue to increment or decrement (within its range) until you release the button.

3. CONNECTIONS

NORD STAGE REAR PANEL
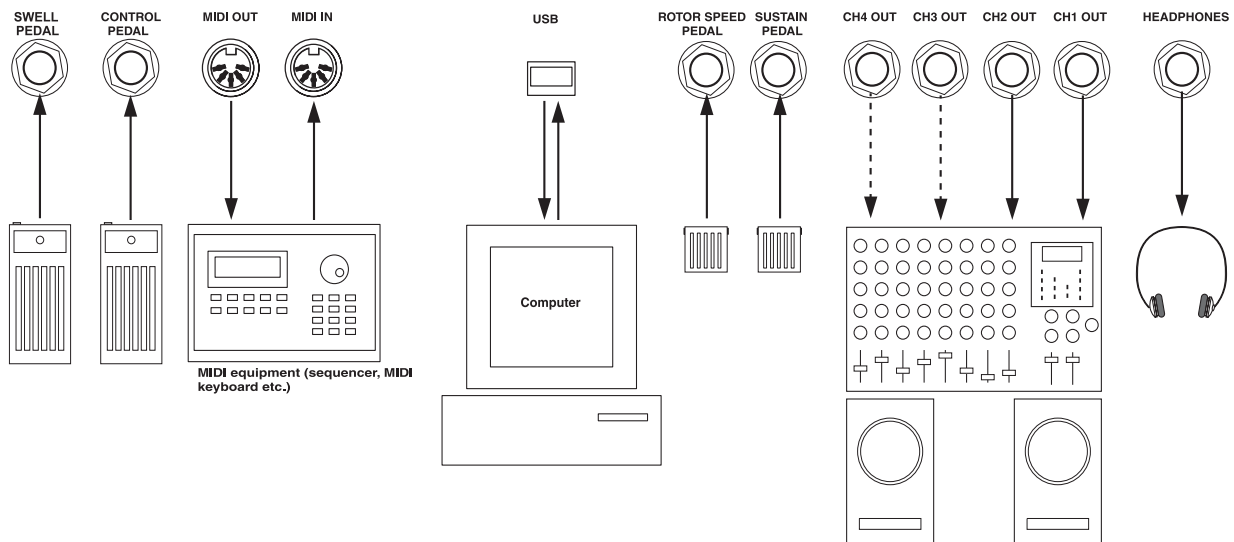
AUDIO CONNECTIONS

- Make all audio connections before turning on your power amplifier!

- All signal cables used with the Nord Stage must be shielded.

- The four audio outputs (**CH OUT 1-4)**) are line level and unbalanced.

- If you wish to connect the Nord Stage in stereo to your audio equipment, you should use **CH1 OUT** in pair with **CH2 OUT**.

- You can also route individual instruments to **CH OUTPUTS 3 & 4** either in stereo or as two mono channels. This is done on the System page - see page 60.

MIDI CONNECTIONS

- If you are using a Nord Stage together with a MIDI keyboard, connect a MIDI cable from MIDI Out on the keyboard to **MIDI IN** on the Nord Stage.

- If you are using Nord Stage to control an external MIDI instrument, connect a MIDI cable from **MIDI OUT** on the Nord Stage to the MIDI In connector on the other instrument.

Connecting pedals

The Nord Stage has four pedal inputs, one **CONTROL PEDAL** input (for controlling Nord Stage parameters), one **ORGAN SWELL** input, one **SUSTAIN PEDAL** input and one **ROTOR SPEED** input (for rotary speaker fast/slow selection). You can select for each instrument whether it should react to sustain or not (see "Activating the Sustain Pedal/Pitch Stick for Instruments" on page 20). Connect the pedals as shown in the figure below:

When connecting an expression-type pedal to the **CONTROL PEDAL OR ORGAN SWELL** input, you should use a stereo cable (Tip-Ring-Sleeve). Please note that the pedal must have a stereo output jack. Pedals from various manufacturers can have different characteristics but any expression pedal can easily be adjusted to function properly with Nord Stage (see "Ctrl Pedal Gain" on page 61).
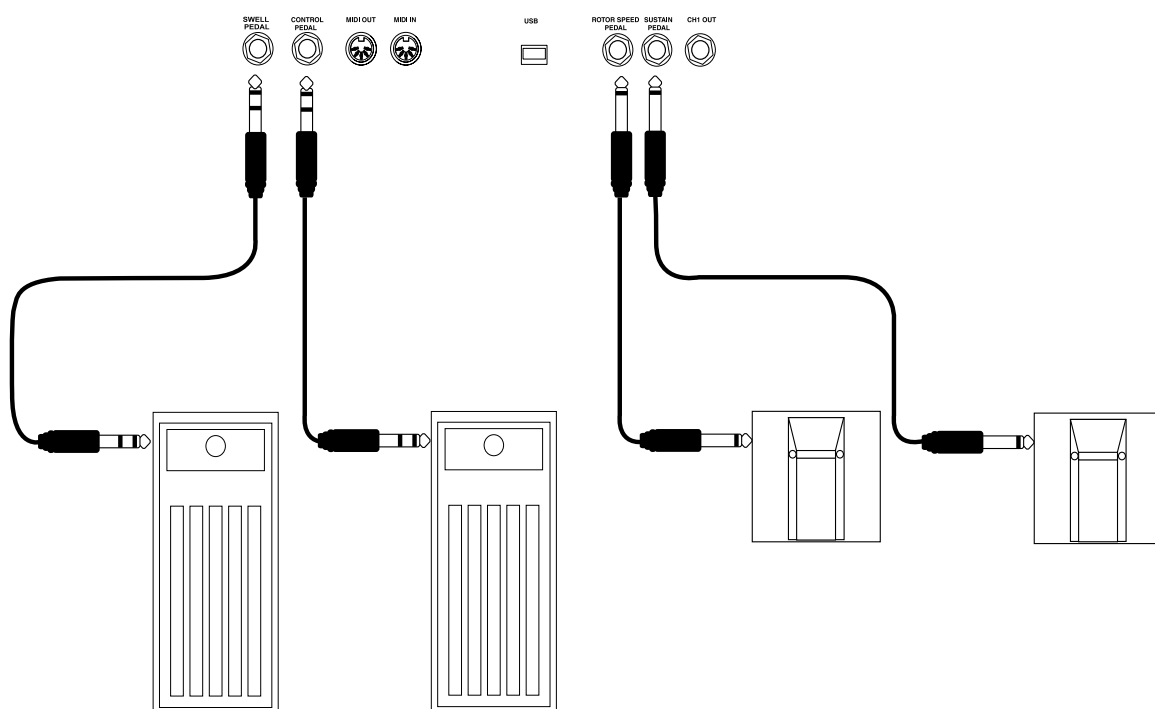
The Organ Swell input

You can connect an expression pedal to the **ORGAN SWELL** input to control organ swell, the characteristic volume/frequency response control used by the original B-3 organ, and normal organ swell for the other organs.

Using a Rotor Speed pedal

You can use a pedal connected to the **ROTOR SPEED** input to switch between Slow and Fast rotor speed for the Rotary Speaker effect. In this case you may need to make System settings to make it operate the way you like. This is done on the System menu page - see "System menu" on page 60, where you can set up the Rotor Speed control mode (Hold/Toggle).

4. GETTING STARTED

ABOUT INSTRUMENTS

When "Instrument sections" or "Instruments" are referred to in the manual this is a collective reference to the Organ, Piano and Synth instruments which can be all be active within a Program.

ABOUT PROGRAMS

A Program in Nord Stage basically contains all settings (instruments and effects etc.) when the Program was saved. A Program can consist of a single instrument or a combination of up to six instruments, which can be assigned to one ore more Keyboard Zones for split and layered sounds.
Programs also contains settings for both Panel A and B (see "About Panel A & B" on page 14.
For more details about the Program memory architecture see "What is a Program?" on page 18.

SELECTING PROGRAMS

The Program memory in Nord Stage consists of 21 Program Pages, with each Page holding 6 Programs for a total of 126 Programs. All Programs can be edited and replaced at any time. To select a Program for playing/editing, proceed as follows:

1. Select a Page (1-21) by pressing the **PAGE -/+** buttons in the Program section.

2. Select a Program on the current Page by pressing one of the six **PROGRAM** buttons 1 to 6.
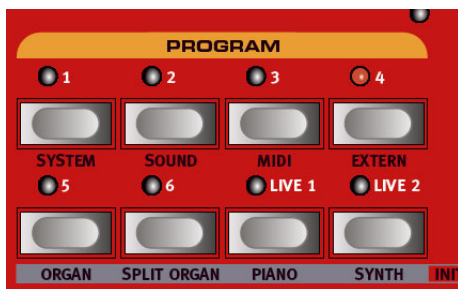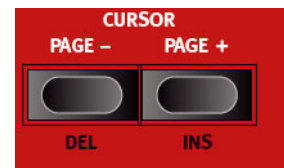
• You can also use the **VALUE DIAL** to the right of the **DISPLAY** to select Programs. By turning the knob you can continuously scroll between all Programs (on all Pages).

Editing a Program

Actually, how to change a programmed sound can be described in one sentence: "tweak the knobs and press the buttons". It *is* as simple as that! Don't be afraid to edit and overwrite the factory Programs. If you want to restore any of the original factory programs later, you can download them at http://www.clavia.se and transfer them to your Nord Stage as MIDI SysEx files. To indicate that a Program has been edited (changed from the stored version), an asterisk is shown to the right of the Program number in the **DIS-PLAY**.

Reverting to the original Program

If you have edited a Program and want to revert to the stored original, just press the corresponding **PRO-GRAM** button again.

Storing and Naming Programs

How to store and name Programs is described in a separate chapter - see "The Program section" on page 16.

Activating instrument sections

There are three main instrument sections in Nord Stage: the Organ section, the Piano section and the Synth section. You can activate/deactivate instrument sections in the following ways:

- Pressing the **KB ZONE SELECT ON/OFF** button for an Instrument section so that one or more of the LEDs lights up will activate the corresponding instrument. If all LEDs are lit, the instrument will play across the whole range of the keyboard. Any other active instrument(s) will in this case be layered with the instrument you just activated.

- Pressing the **KB ZONE SELECT** button for an active Instrument section (so that the LEDs go dark) will turn off the corresponding section.

- For information on how to use splits see the chapter "Keyboard Zones and Dual Panel setups" on page 50.

Instrument Init 1-4

Alternatively, you can use the following method to select one of four basic **INSTRUMENT INIT** setups (Organ/Split Organ/Piano/Synth). This will activate the corresponding instrument, and deactivate all other instruments.

1. Hold down the **SHIFT** button.

2. Press one of the **ORGAN, SPLIT ORGAN, PIANO OR SYNTH** buttons in the Program section to activate the corresponding instrument section. The "Split Organ" setup uses a split for a Lower/Upper manual organ where the lower half of the keyboard plays an organ belonging to Panel A and the upper half plays Panel B (see "About Split Organ Setups" on page 26).

ABOUT PANEL A & B

All instruments in Nord Stage are two part multitimbral. This means that each instrument section can produce two sounds simultaneously, with completely independent settings. The key to this feature are the two Panels; A and B.

The two **PANEL** buttons **A** and **B** selects which Panel is currently active (or edit active - see below). Each Panel controls three instrument sections and four Panel effects. The intended functionality of having two Panels with their own settings is not to alternate between two sound setups within a selected Program (although you can).

The "proper" way to use Panels is rather to have both Panels activated, giving you access to two simultaneous instrument sounds in each instrument section, e.g. a Rhodes and a Clavinet, two Synths etc. In dual panel mode you are basically layering two sets of the Nord Stage panel.

- You activate both panels by holding down one of the **PANEL A/B** buttons and then pressing the other.

- To exit "Dual Panel" mode, hold down one of the **PANEL A/B** buttons and then press the other.

ABOUT PANEL EDIT FOCUS

*Both Panels activated. One of the **PANEL** button LEDs will blink to indicate which Panel is currently has edit focus.*

If both Panels are activated, the settings on the front panel always reflects settings for one of the Panels (A or B) at a time.

- Any tweaking of parameters will only affect the currently "edit active" Panel, which is indicated by a blinking **PANEL** button.

- Pressing the other **PANEL** button will then instantly switch edit focus to the other Panel and allow you to edit the settings.

- Each Panel contains independent settings for three instruments (Organ/Piano/Synth), as well as the settings of the four Panel effects (Effect 1/2, Delay and AmpSim/EQ).

- Thus, within a single Program you can use up to six instruments and eight independent effects.

SETTING OUTPUT LEVEL FOR INSTRUMENTS
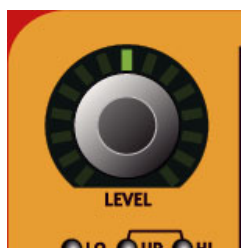
Each instrument has a **LEVEL** rotary encoder at the top. This adjusts the output level for the corresponding instrument section. The **LEVEL** encoders can be Morph controlled.

ADDING A GLOBAL EFFECT

Nord Stage features four effect sections; the Rotor section (rotary speaker effect), the Effects section (three separate effects units; Effect 1, 2 and Delay), the Ampsim/EQ section (overdrive and amplifier/speaker modelling with EQ), and a Compressor and Reverb section. The Compressor and Reverb effects are global, and affect all instruments routed to the main **CH OUT 1/2** jacks. The other effects can process one instrument at a time per Panel.

• To add a global reverb effect to a sound, simply press the **ON** button in the Reverb section.

Now you can adjust the amount of reverb effect using the **DRY/WET** knob, and set the basic reverb character (Hall/Stage/Room) using the Selector button!
How to use the other effects is described in the Effects chapter, see "The Effects" on page 44..

5. The Program section

Overview

The Program section comprises central functions such as Program handling, system pages etc. System pages are covered in a separate chapter - see .

Page -/+ buttons

The **PAGE -/+** buttons are used to select Programs and to navigate between System menu pages.

Display

The **DISPLAY** normally shows the name of the currently selected Program, but is also used for displaying various system parameters.

The Shift button

Many buttons and knobs have secondary functions that you can access by holding down **SHIFT** and pressing the button or turning the knob. The Shift induced functions are always printed below the corresponding button or knob. For example, pressing **SHIFT + PROGRAM 3** button will allow you to access the MIDI system parameters.

Value Dial

The **VALUE DIAL** to the right of the Display is used to select Program locations, and to set system parameter values.

The Store button

The red **STORE** button is used when storing Programs (see "Storing Programs" on page 19).

Program buttons

Below the **DISPLAY** are the six **PROGRAM** buttons (**1- 6**). Use them to select Programs and to select various system functions (using **SHIFT**).

The Live 1/2 buttons

Pressing either of the **LIVE 1/2** buttons will activate the Live memory - see "About the Live 1&2 memory" on page 18 for a description of this special memory feature.

KB Zones 2/3 buttons

These buttons are used to activate keyboard zones. Each Program can have up to three keyboard zones (Lower/Upper/Hi), and each instrument section can be set to play across all, two or one of these zones - see "Keyboard Zones and Dual Panel setups" on page 50.
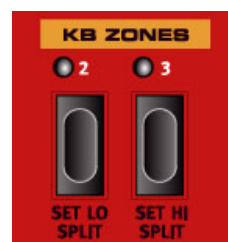
Morph Assign buttons

This section allows you to assign panel parameter(s) to be controlled using the Mod wheel, a control pedal or keyboard aftertouch. Multiple parameters can be Morph-assigned so that when you for example move the Mod wheel it will change the drawbars settings for the organ and the volume of the piano section simultaneously. See "The Morph Assign feature" on page 54.

Panel A/B buttons

For each Program you have two independent Panels; A and B, where each Panel contains independent settings for the three instrument sections and effects. If you activate both Panels you can use two instruments of the same type at the same time, e.g. two Piano instruments or a Split Organ setup (see "About Split Organ Setups" on page 26. This is done by simultaneously pressing both **PANEL A** and **B** buttons. When both panels are active you have access to six instrument sections and eight effects sections (Effect 1 & 2, Delay and AmpSim/EQ x2). One of the **PANEL A & B** buttons will then blink to indicate edit focus, i.e. which of the two Panel's settings that are currently shown and can be tweaked. To switch edit focus to the other Panel, press the corresponding **PANEL** button.

What is a Program?

A Program basically stores everything (except System functions which are mostly global). To understand the internal architecture in Nord Stage, keep the following in mind:

- For each **Panel**, settings for all three Instruments, the four Panel Effects, and the Extern section are independent.

- A **Program** stores settings for both Panel A and B, so a Program contains independent settings for six instruments, eight Panel Effects, and two Extern sections.

- The Global effects (Compressor/Reverb), and the Rotor effect, are not Panel independent, but are stored with the Program as well.

- Splits, layers (Keyboard Zones) and Morph assignments are of course also part of a Program.

About the Live 1&2 memory

The special Live memory feature can be described as a "live program memory". If you activate the **LIVE 1 OR 2** buttons, all changes to panel settings you make will be continuously saved. If you switch the power off, or select another Program, the settings are still stored in the Live memory, so when you power up next time (or return to the Live memory) all settings will be exactly as you left them.

Having two Live memory locations means that two independent setups can be "saved" in this way.

If Live memory is selected and you decide you wish to store the settings permanently as a Program you can do so using the standard methods (see below).

You can also store Programs into the Live 1 or 2 memory locations, in which case the Program settings will replace the current Live memory settings. Note that when you store a Program into either of the Live memory locations, the stored settings will be "transferred" to Live memory, i.e. any changes you make will be stored continuously, and you will not be able to revert back to the exact settings as they were when "stored".
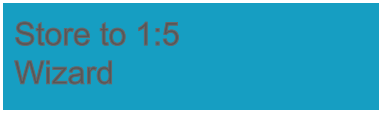
Storing Programs

Storing a Program will overwrite the existing Program in the selected memory location.
Note! When Nord Stage is shipped from factory, Memory Protect is set to 'On'. To be able to store Programs, see "Memory Protect" on page 61.

Storing a Program

To store a Program without changing its name, proceed as follows:

1. Press the **STORE** button once. The **STORE** button and the currently selected **PROGRAM** button indicator starts blinking, and the **DISPLAY** will read "Store to X : X" (the current Page and Program number), plus the Program name,

Store to 1:5
Wizard

2. Next step is to select a Page/Program location to store the edited Program in. You can use the **PAGE -/+** buttons to select a Program Page (1-21), and the **PROGRAM 1-6** buttons to select a Program number on the selected Page (or the Live 1 or 2 memories). Alternatively, you can use the **VALUE DIAL** to scroll through all Programs (on all Program Pages). To cancel the operation, press any button, except for the **SHIFT, PROGRAM, STORE** or **PAGE -/+** buttons.

• From here you can opt to name the program before finally storing it - see "Naming a Program" below.

3. Press **STORE** again to store your Program. The Display now reads "Program Stored!" for a short duration.

Naming a Program

To name a program, proceed as follows:

1. Hold down **SHIFT** and press the **STORE** button once. The **STORE** button indicator starts blinking, and the **DISPLAY** will read "Set Name".

2. Now use one of the following methods to name your Program:

• You can move the cursor position left or right in the **DISPLAY** by using the **PAGE -/+** buttons.

• When the cursor is at the position where you want to enter/change a character, you can use the **VALUE DIAL** to scroll through all available characters (a-z.A-Z, 0-9, Space and "-").

• By holding down **SHIFT** and pressing the **PAGE + (INS)** button, you enter a blank step at the cursor position.

• By holding down **SHIFT** and pressing the **PAGE - (DEL)** button, you erase the character at the cursor position.

• Alternatively, you can press and hold down the **KB ZONES 2 OR 3** button. This will bring up the characters in the **DISPLAY** with the focus on the character the cursor was last on. You can now use the **VALUE DIAL** to select a character at the current cursor position. When you release the **KB ZONES** button the cursor automatically moves to the next position.

3. Press **STORE** again. Now you can use the same methods as outlined in "Storing a Program" above to store your name with the Program.

6. The Instruments

Introduction

The Nord Stage features 3 different Instruments; Organ, Piano and Synth. Each Instrument is two part multitimbral meaning that there are actually two independent sound engines for each Instrument. These "engines" are internally connected to the Panels, one for Panel A and another for Panel B. The Organ behaves a little differently in that there is actually only one "engine" but supports two manuals with separate drawbar settings - see "About Split Organ Setups" on page 26.

Common Features

Activating the Sustain Pedal/Pitch Stick for Instruments

You can freely set which instruments are to respond to a connected Sustain Pedal and to Pitch Bend

• To activate the Sustain pedal for an instrument, press **SHIFT** + the right **OCTAVE SHIFT** button in the corresponding instrument section so that the "SUSTPED" LED lights up below the button. You use the same general method to deactivate reception of Sustain for an instrument section, which in that case turns off the "SUSTPED" LED indicator.

• To activate Pitch Bend for an instrument section, press **SHIFT** + the left **OCTAVE SHIFT** button in the corresponding instrument section so that the "PSTICK" LED lights up below the button.

The bend range is fixed to -/+ 2 semitones.

Level encoder

The **LEVEL** rotary encoder allows you to adjust the output volume for the instrument. Instrument level can be Morph controlled.
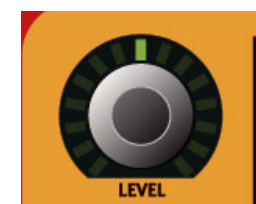
KB Zone Select buttons

The **KB ZONE SELECT** buttons allow you to assign the instrument to Keyboard Zones to create splits and layers. This is described in "Keyboard Zones and Dual Panel setups" on page 50.

Octave Shift

Each instrument has a finite note range. You can use Octave Shift to shift the pitch up or down within the instruments note range. See "Octave Shift" on page 52 for more information.

THE ORGAN SECTION
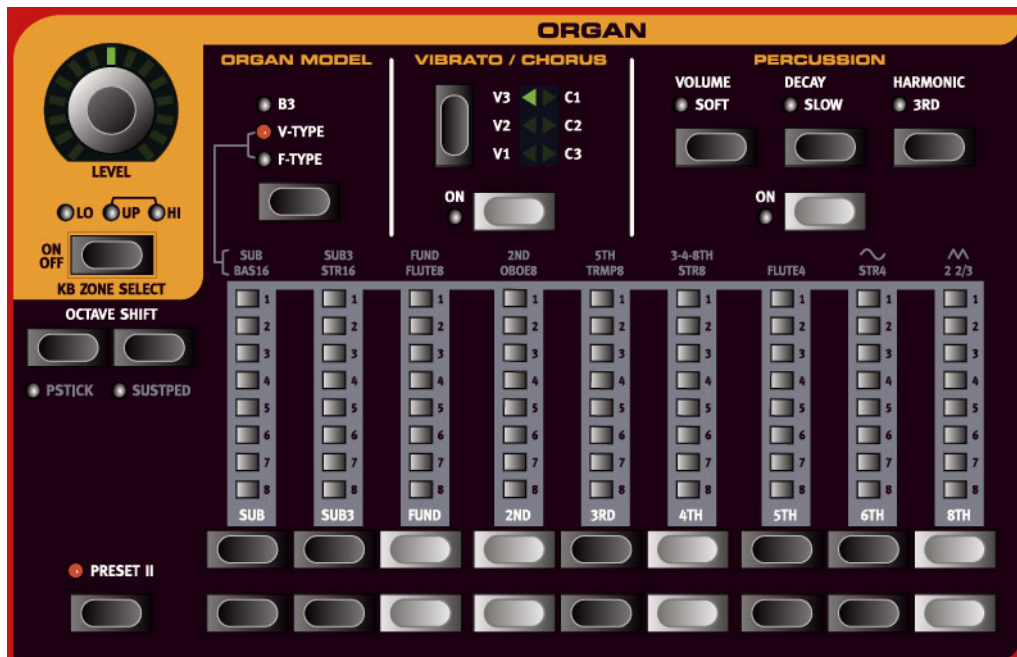
The Organ section in the Stage features emulations of three classic organ models; a Hammond B-3, a Vox Continental II (V-Type) and a Farfisa Compact DeLuxe (F-Type).

You select which model to play using the **ORGAN MODEL** button.

THE B-3 MODEL (HAMMOND)

The B-3 Organ in the Nord Stage is based on a digital simulation of the mechanical tone wheels of the classic Hammond B-3 organ. This simulation utilizes innovative and advanced methods to capture every nuance of the original B-3 sound, for example:

- An extremely accurate digital model of the original chorus and vibrato scanner.

- Modeling of the individual random contact bounces for each harmonic.

- Modeling of the unique frequency characteristics of the built-in pre-amplifier which forms the ”body” of the B-3 sound.

- Simulation of the energy stealth on the tone wheels that results in the typical ”compressed” sound.

- Authentic tuning of the tone wheels according to the original B3 design.

- Extremely fast keyboard response.

- Full polyphony.

THE DRAWBARS

The drawbars of Nord Stage are represented by buttons and LED chain graphs instead of ordinary mechanical drawbars. This gives you a big advantage: when you change preset or Programs, the correct drawbar settings are recalled immediately and shown by the LEDs. In other words, no need for the regular ’trial and error’ method. It’s very easy to get the hang of changing the drawbar settings in a natural way with the buttons.

Page 21

The drawbars of Nord Stage be-
have similar to their mechanical
counterparts, i.e. you "pull out"
the drawbars by pressing the
LOWER DRAWBAR buttons and
"push them back in" by pressing
the **UPPER DRAWBAR** buttons.
The **DRAWBAR** buttons are spe-
cial in the way that they auto-in-
crement/decrement the drawbar
value when held. I.e. if you hold a
DRAWBAR button the corre-
sponding drawbar value will con-
tinue to increment or decrement
(within its range) until you release
the button. Each drawbar repre-
sents a harmonic (sometimes
called a partial). In the figure you
can see the pitch interval among
the nine drawbars. Note that the
SUB3 drawbar actually lies a 5th
*above* the fundamental harmonic.
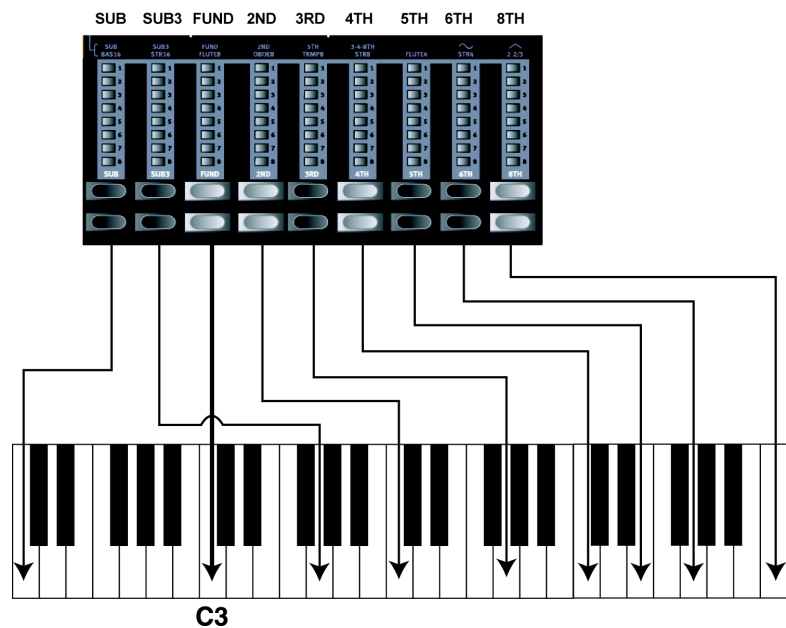
*In the figure above we have chosen C3 as our reference note. The FUND drawbar is
considered the basic (fundamental) harmonic in the organ sound. The arrows point
at the respective note that each drawbar represents when C3 is our reference note.*

However, in most situations it is perceived as sounding *below* the basic harmonic. When you play different
notes on the keyboard, the harmonics are being transposed up or down with the fixed harmonic intervals.
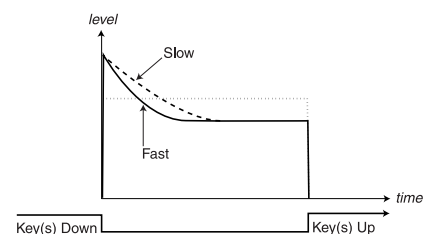
PERCUSSION

In the original B-3 the Percussion effect is generated by a single enve-
lope generator that controls either the 2nd or 3rd harmonic. The en-
velope "opens up" for a short moment in the beginning of the sound
when you press the key(s).

• You activate and deactivate the Percussion effect by pressing the
  ON button.

• The Percussion effect can be set to control either the 2nd (**HARMONIC 3RD** button LED Off) or 3rd
  harmonic.

• The envelope Decay time can be set to Fast (**DECAY** button LED Off) or Slow and the Volume charac-
  teristics to Normal (**VOLUME** button LED Off) or Soft.

*(The horizontal dotted lines
represent the current draw-
bar level without Percus-
sion)*
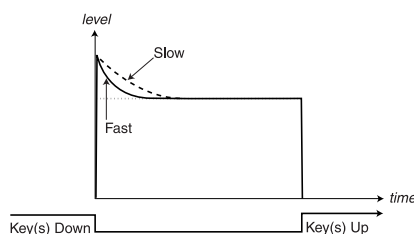
*The figure above shows the Percussion envelope in
SOFT mode*

*The figure above shows the Percussion enve-
lope in NORMAL mode*

Page 22

Like on the original B-3, the Percussion is a single-triggered non-legato effect. By "single-triggered" we mean that the percussion is only present when you hit the keys when no other note is sounding. In other words, if you play a note or a chord and then add on more notes without releasing the previously pressed keys, there will be no percussion effect in the new notes. You have to release all keys to be able to play new notes with the percussion effect. Also, like on the original B-3, in Normal Percussion mode the sustain level is significantly lower than in Soft Percussion mode (or with the Percussion effect disabled).

Vibrato

The original B-3 chorus and vibrato scanner consists of a tapped delay line in combination with a rotating scanner. For the Vibrato effect, phase shift is applied to the signal. For the Chorus effect, the phase modulated signal is added to the original signal. A lot of time and effort have been spent in accurately recreating the chorus and vibrato scanner effect. Like on the original B-3, Nord Stage offers three different types of choruses (C1-C3) and three different types of vibratos (V1-V3). Select one of these types by pressing the **SELECTOR** button. You activate and deactivate the Vibrato section by pressing the **ON** button.

Key click control

On an original B-3 organ, the key click produced by the random contact bounces is actually an audio artifact. This particular artifact later became a desirable effect amongst musicians. In the Nord Stage you can select the amount of key click that should be present in the B-3 organ sounds.

1. Press the **SHIFT + SOUND** buttons to access the Sound menu page.

2. You use the **PAGE -/+** buttons to navigate to the Organ Key Click Level menu item.

3. Now you can use the **VALUE DIAL** to change the Click Level 0-100%. Default setting is 50%.

When you are done, press the **SOUND** button again to exit the Sound page.

The V-Type Model (Vox Continental II)

The Vox Continental is probably the most famous of all the transistor-based combo organs that emerged in the early 60's. Transistor technology made it possible to manufacture much more compact and portable organ instruments. Compared to the mighty sound of tone-wheel based organs, transistor organs generally sounded reedier and weaker, but the Vox Continental had a distinctive sound character which together with the portability and cool design (inverse keyboard and chrome "Z-frame" stand) made the instrument massively popular at the time. The sound is timeless and recreated faithfully in Nord Stage.

The Drawbars

The original Vox Continental also used drawbars to change the timbre of the sound. The harmonic intervals for the V-Type organ are printed on the upper row above the drawbars (see for a general description of how the drawbars work in Nord Stage).

In the figure you can see the pitch interval among the six drawbars used by the V-Type organ. Note that the 6th drawbar from the left controls three harmonics simultaneously (3rd-4th-8th). The two rightmost drawbars determine the mix of the two basic waveforms that make up the sound generating source of the organ sound, just like on the original. You have access to sine (soft) and triangle (bright) waveforms which can be freely mixed together. If these drawbars are both fully "pushed in", the organ will not produce any sound.
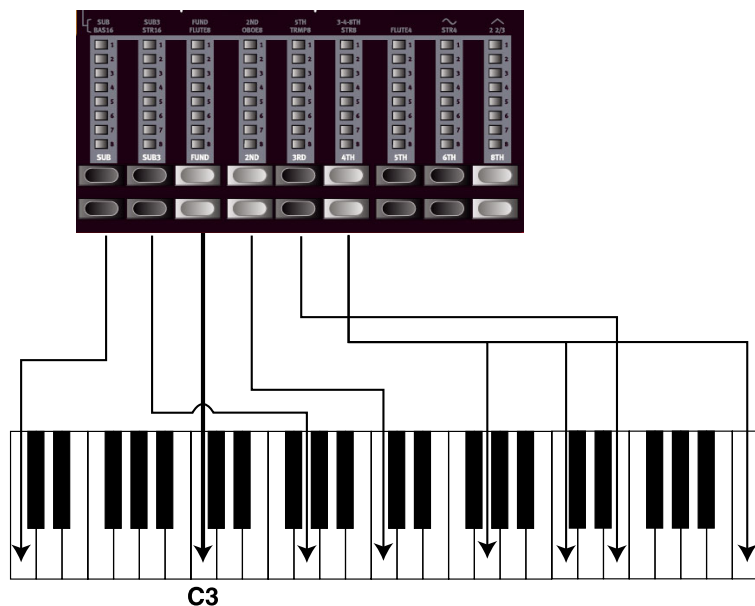
In the figure above we have chosen C3 as our reference note. The FUND drawbar is considered the basic (fundamental) harmonic in the organ sound. The arrows point at the respective note that each drawbar represents when C3 is our reference note.

Vibrato

There is only one type of vibrato available for the V-Type, which is activated using the **On** button in the Vibrato section. Note that the V-Type vibrato is common for both Panels if a dual manual organ is used.

F-Type Model (Farfisa)

The typical "buzzy" sound of the Farfisa organ is one of the most distinct and easily recognizable keyboard sounds ever created, yet it is actually possible to get quite a wide range of sounds out of the instrument. For Nord Stage a Farfisa Compact DeLuxe was used as the source model.

The Register selectors

The drawbars act as on/off switches, or "Register selectors" when the F-Type model is selected. Instead of drawbars, the original Farfisa organs featured "rocker"-type switches to select instrument "voices" (actually different filter settings) in various footage (octave) ranges. In Nord Stage, this functionality is reproduced. When the F-Type organ model is selected, the **LOWER DRAWBAR** buttons are used to turn voices on, and the **HIGHER DRAWBAR** buttons turns them off. The drawbar LEDs 5-8 are lit up for an activated voice, and drawbar LEDs 1-4 are lit up for a deactivated voice. The available voices for the F-type (also printed on the panel directly over the drawbars) are as follows (from left to right):
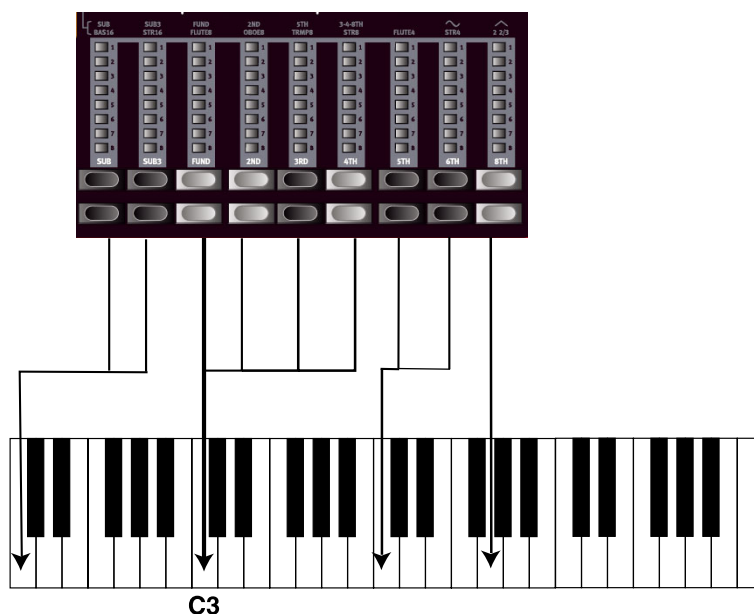
In the figure above we have chosen C3 as our reference note. The four 'Register selectors' correspond to the fundamental harmonic (but with different tonal characteristics). The arrows point at the respective note that each drawbar represents when C3 is our reference note.

Register selector #	Voice	Panel Name
1	Bass 16	BAS16
2	Strings 16	STR16
3	Flute 8	FLUTE8
4	Oboe 8	OBOE8
5	Trumpet 8	TRMP8
6	Strings 8	STR8
7	Flute 4	FLUTE4
8	Strings 4	STR4
9	A bright voice, pitched an octave and a fifth above the fundamental.	2 2/3

Note that the voices aren't supposed to replicate the instruments they are named after, but rather to describe the basic tonal characteristic of the voice (i.e. flute=soft/oboe=reedy/strings=bright/trumpet=brassy).

Vibrato

The F-Type Model has two basic vibrato modes; "Light" and "Heavy", with different rates for each mode. Slow/Fast rate for the Light mode is set with the V1/V2 Selectors and C 1/C2 sets the rate for Heavy mode. Note that the F-Type vibrato is common for both Panels if a dual manual organ is used.

Swell control

Swell is the characteristic volume function that you control from the B-3's pedal. Swell is not only a volume control - for the B-3 it also changes the character of the sound in a special way. To use Swell control on the Nord Stage, simply plug in a standard resistive expression pedal to the **ORGAN SWELL** input on the rear panel (see).

A expression pedal connected to the **ORGAN SWELL** input will control Swell for all organ models.

Rotary Speaker

The Rotor section (rotary speaker simulation) is logically placed next to the Organ section, but you can also use it for Piano or Synth sounds, just like the other effects. The Rotor effect is described on .

Organ preset 1 & 2

For each Organ Model you can store two organ Presets within a single Program. This is a quick way of changing between two sound variations, without having to change Programs.

You change between Presets 1 & 2 by pressing the **PRESET II** button. The drawbar settings and the Vibrato/Percussion (on/off) settings in both Presets are stored with the Program.

About Split Organ Setups

If you press **SHIFT** and the **SPLIT ORGAN** button you will activate a basic Split Organ setup, where Both Panel A and B are active. In this mode the keyboard is split to play a "Lower" and an "Upper" Manual organ. Panel A settings control the Lower Manual and Panel B the Upper Manual. By default, the split point is set at middle C.

A blinking **PANEL** button indicates which Panel is edit active, i.e. which of the two Panel's settings are currently shown. To edit/show settings for the other Panel/Manual, press the corresponding **PANEL** button.

Each Panel/Manual can have their own drawbar, Vibrato (on/off) and Percussion (on/off) settings.

The Piano section

The Piano section of Nord Stage contains six Piano Categories, and each Category can contain different instrument Types. **You can freely add new piano instruments via USB using the Nord Stage Manager utility** (see).

Right out of the box, Nord Stage features a fine collection of carefully selected acoustic and electromechanical pianos. A lot of effort was put in to ensure that the play response and sound of the sampled instruments matches every nuance of the real article. Each piano instrument has been multi-sampled in a vast amount of levels. That's one reason why they all sound and feel so authentic.

About the Piano Instruments

Since all piano samples are stored in Flash memory you can easily add and/or replace the stored piano instruments with new ones.

When you download Piano instruments, these will always automatically be loaded into the corresponding Category. The user can select whether to overwrite an existing instrument in this category, or to add it as a new Type. Thus, the Piano Categories printed on the panel are always correct.

A Program saves Piano instruments by Category and the Type number. If a Program refers to a Piano instrument that isn't currently loaded, i.e. an empty Type slot, the Type display will blink showing the missing Type number. If this happens, you can either navigate to another instrument Type in the selected Category and select to use this instead, or use the **Nord Stage Manager utility to download an instrument into the empty Type slot.**

SELECTING PIANO INSTRUMENTS

You use the **SELECTOR** button to select an instrument category and then use the **TYPE** button to select a specific instrument or variation within the selected category.

The Piano categories are as follows:

CLAV
This is the Clavinet Category.

WURL
This is the Wurlitzer Category.

RHOD
This Category is for Fender Rhodes pianos.

GRAND
This Category is for acoustic grand pianos.

UPRIGHT
This Category is for acoustic upright pianos.

E GRAND
This Category is for electric grand pianos.

About the Factory sound library

As mentioned previously, the Piano section is open-ended in that you can load new instruments using the Nord Stage Manager utility. Below follows a description of the Piano Instruments that are included with the Nord Stage from factory:

Category	Type #	Description
Clav	1-4	This selects a sampled Hohner Clavinet D6. There are 4 Types selectable, with different pick-up variations. (See "Pick-up Type" on page 30.) In addition, all possible filter combinations of the original Clavinet D6 can be recreated in the Clav EQ section. (See "Clav EQ" on page 30).
Wurl	1	Wurlitzer 200A electric piano.
Rhod	1	Rhodes Mk I Stage Piano SeventyThree. It was built in May 1978 and was adjusted to "deep timbre adjustment". The so called volume adjustment is set to 'Low'. These settings gives the piano a warm sound with a rich fundamental.
Rhod	2	Rhodes Mk II Stage Piano built in April 1981 and adjusted to 'shallow' timbre. Remember this sound? It became famous thanks to the great Chick Corea. The volume adjustment is set to 'close'.
Rhod	3	Rhodes Mark V Stage Piano 73, built in June 1984 and adjusted to 'ideal' timbre. The volume adjustment is set to 'close'. According to inventor Harold Rhodes, the Mark V was "the best Rhodes ever built". The sound of the Mark V offers improved clarity in the upper range, better consistency of tone in the low range and increased sustain compared to earlier versions of Rhodes pianos.
Grand	1	Yamaha C7 Concert Grand, sampled in stereo with close miking.
Grand	2	Steinway Concert Model D (Ambient). Also in stereo with room ambiance.
Upright	1	A piano manufactured by Svenska Pianofabriken (Swedish Piano Factory). It was carefully tuned to sound like a typical "parlour" piano.
Upright	2	Upright Yamaha M5J. A serious upright piano with plenty of character.
E.Grand		Yamaha CP-80 Electric Grand.

About Info

If you press Shift and the **INFO** button in the Piano Select section, the display will momentarily show the instrument's name and additional information about the currently selected instrument, e.g. mic placement "Close" or "Ambient".

Clavinet sound

On an original Clavinet D6 you can select different pick-up and filter combinations by pressing a number of rocker switches. This functionality is very faithfully simulated in the Nord Stage, which means that you get all possible original Clavinet D6 sound variations (plus an additional four) by selecting different pick-up and filter combinations! Here's s how it works:

Clav EQ

The two **CLAV EQ** buttons works as filter selectors. By selecting different combinations of the **BRILLIANT/TREBLE** and **MEDIUM/SOFT** filter buttons you can reproduce all 15 possible filter variations, exactly like on the original D6.

Pick-up Type

A Clavinet D6 has two separate pick-ups, one on the "neck" and one on the "bridge". By selecting either one pick-up or both in different combinations you can alter the character of the sound quite drastically. When the Clavinet is selected in the Nord Stage, you use the **TYPE** button in the Piano Select section to select pick-up variations according to the table below:

Pick-up Type	Description
1 (CB)	Only the "bridge" pick-up; a bright sound.
2 (CA)	Only the "neck" pick-up; a warmer, less bright sound.
3 (DA)	Both pick-ups 180 degrees out of phase; the fundamental is almost cancelled out and the sound becomes thin.
4 (DB)	Both pick-ups on and in phase; a very full sound.

Dynamics (Velocity sensitivity)

Some of the piano instruments sampled for the Nord Stage have very wide dynamic ranges by nature and naturally we wanted to capture this as accurately as possible.

Therefore, it could be perceived that it is a little hard to reach the most extreme levels when playing the Nord Stage piano sounds with the default keyboard Dynamics setting. This is because the dynamic response curves have been very carefully adjusted to match each original instrument's response characteristics. In other words, Clavia's intention was that when you play a Rhodes sound, for example, it should almost feel like you are playing a Rhodes piano. However, If you want the piano sounds to respond more easily to keyboard velocity, you can set this in the following way.

• Hold **SHIFT** and press the **DYNAMICS** button to select one of the three modes. The LEDs to the right of the **TYPE DISPLAY** light up to indicate what mode is selected. Select between 1-3, where 3 is the most compressed response. If all LEDs are off, this indicatesthe instrument's original sensitivity.

The Dynamics setting is saved with a Program.

The Synth section

Basics

The Synth section in Nord Stage was designed to be a versatile yet easy to use "stage" synthesizer to complement the other instrument sections. It is based on traditional "subtractive" synthesis, but also features waveforms derived from FM and wavetable synthesis.

The Synth is polyphonic with 16 voices.

Combining advanced sound generating features with traditional analog sound shaping (envelopes/filter) allows for a wide variety of sounds, yet it is very easy to use as there are not many parameters to tweak. Nord Stage is after all primarily a stage instrument!

Osc Group

Timbre control

The central **TIMBRE** control is used to shape the sound in various ways (depending on waveform). Timbre can be Morph controlled.

Wave selector buttons

The two **WAVE SELECTOR** buttons are used to switch between the different modes and categories in the osc group. Hold shift and press the wave buttons up or down to choose a category (Analog/FM/Digital), the LED indicators shows wich category is activated while just pressing the wave buttons up or down will switch between the different waveform within the selected category.

Waves in the Analog category

The Analog category has ten waveforms to choose from, summarized in the chart below.

Wave display	Waveform
S	Sawtooth
Sd	Sawtooth detuned
S\	Sawtooth synced
P	Pulse
PF	Pulse fixed time
P\	Pulse synced
t	Triangle
t\	Triangle synced
C\	Cos synced
n	Noise

Sawtooth

The sawtooth wave contains all harmonics and is the richest of the available waveforms. It is suitable for all sorts of sounds.
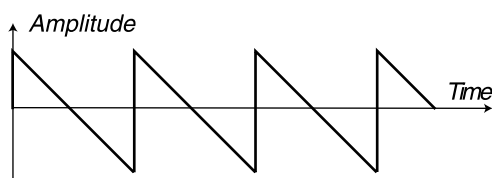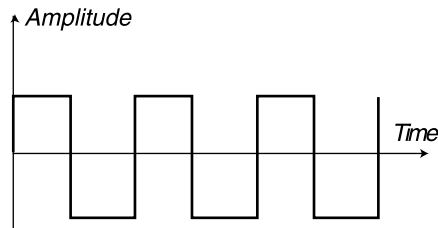

The sawtooth signal shape
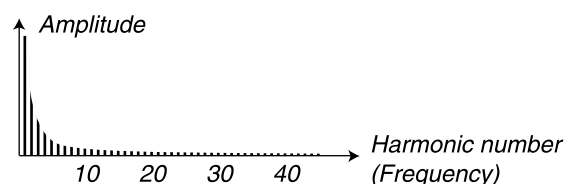
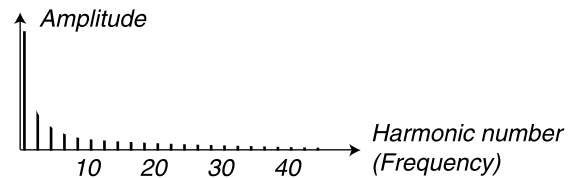*The sawtooth signal frequency spectrum*

The **TIMBRE** knob does not have any effect on the sawtooth wave.

PULSE

The pulse wave contains only odd harmonics at 50% pulse width (square wave). This waveform is special in that its harmonic content can be varied continuously, by adjusting the pulse width (PWM).
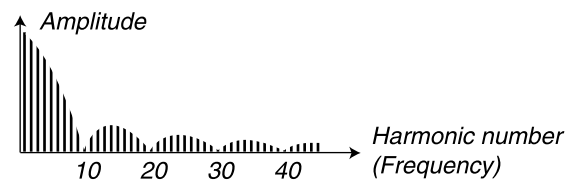
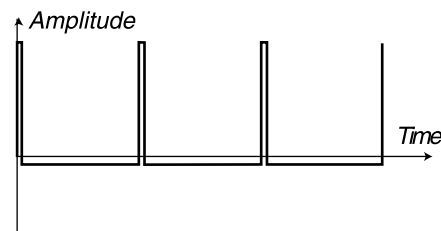*The pure square wave: a pulse wave with 50% pulse width*

The frequency spectrum of a pure square wave. The signal contains only odd harmonics
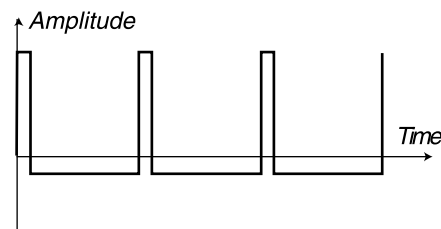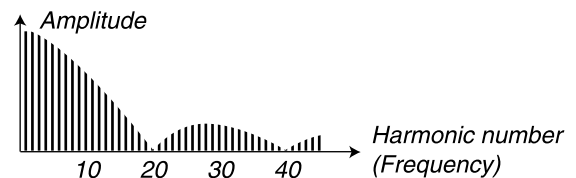
The pulse wave at 10% pulse width

The frequency spectrum at 10% pulse width. Now, also even harmonics are gradually introduced making the sound "sharper" but also "thinner"

The pulse wave at 5% pulse width

The narrower the pulse width, the more harmonics are present in the frequency spectrum

The **TIMBRE** knob controls the pulse width of the pulse wave, from 50% (square wave) to 1%. You can modulate the Timbre using Morph (see), Velocity or Mod Envelope. This waveform is suitable for many type of sounds and has a more "hollow" character than the Sawtooth wave.

TRIANGLE

The triangle waveform has only odd and not very strong harmonics. It is suitable for flute sounds and similar.

NOISE

The noise waveform is a chaotic waveform, it does not contain any harmonics, together with cutoff, resonance and the effect section it can produce interesting atmospheres.

Oscillator Sync waveforms

The Saw, Square, Triangle and Sine waveforms can be *synchronized*, these modes are marked with a special character in the wave display and extended with synced in the main **DISPLAY**. Oscillator Synchronization means that you use the signal from one oscillator to restart another oscillator. Nord Stage has a "hidden" sync oscillator for waveforms with this option. Oscillator sync is very useful for generating lead lines with classic "hard sync" sounds. When sync is applied, the basic pitch of the oscillator is locked to that of the sync oscillator. When you vary the pitch of the synchronized oscillator with the **TIMBRE** knob, this will be perceived as a change in timbre, with a frequency spectrum with deep resonance in the oscillator's harmonics.

Tip! When using Oscillator Sync, it can be very useful to have the Timbre amount(s) modulated from any of the Morph assign sources. This will generate a signal with continuously varied harmonic content.

If you choose one of the synchronized oscillator mode, the Oscillator will start over with a new period of the waveform, each time the sync-oscillator does so. If the Oscillator then has a higher frequency than the sync-oscillator, it will get a complex waveform that depends both on its own pitch and on that of the sync-oscillator.

Example 1: a sawtooth wave synced by a sync oscillator. The sawtooth wave is restarted every time the sync oscillator begins a new cycle. The resulting signal gets deep resonance in its harmonics.
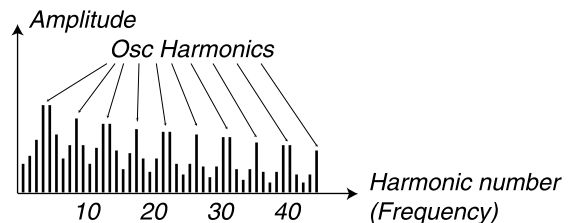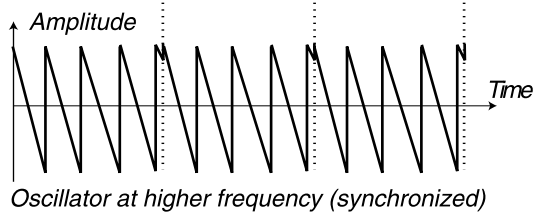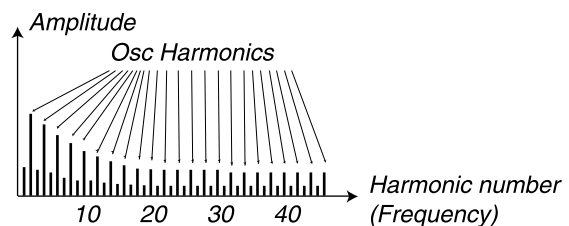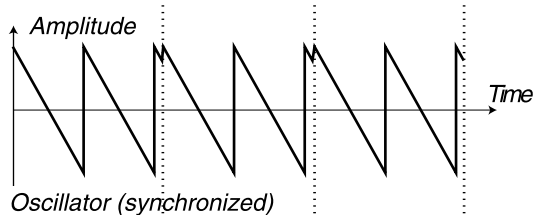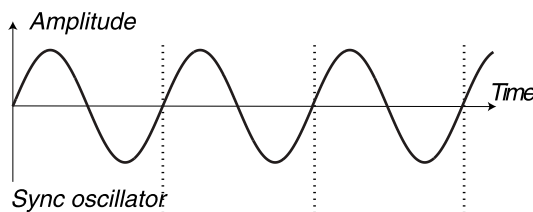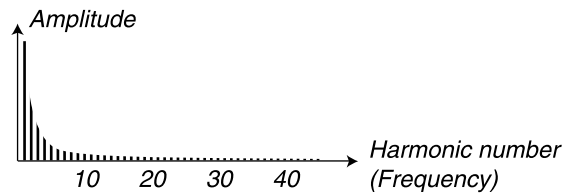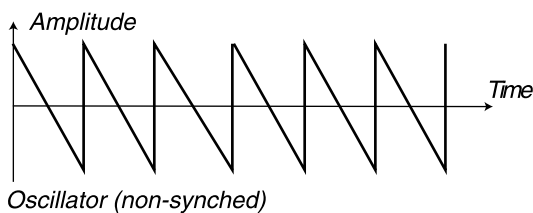
FM CATEGORY

The basic principle behind FM synthesis relies on one oscillator (the modulator) modulating the frequency of another (the carrier). There are several different types of algorithms in the FM category ranging from one up to three oscillators (operators) working together. Depending on what kind of sound you want choose from the different combinations availible and you have many interesting FM sounds at your disposal. When a new wave is selected the main **DISPLAY** shows, for a short duration, the algorithm used together with information on the frequency relations between the operators and whether feedback is used. The wave display shows the modulator (s) frequency relation to the carrier. If an operator uses feedback it is indicated by a dot next to the digit. In the chart below all availible algorithms together with the notation used in the wave display are listed:

Wave disp.	Algorithm	Freq. relation
Cr	1 op with feedback	1
1	2 op	1:1
2	2 op	2:1
3	2 op	3:1
5	2 op	5:1
9	2 op	9:1
1.	2 op with feedback	1:1
2.	2 op with feedback	2:1
3.	2 op with feedback	3:1
5.	2 op with feedback	5:1
9.	2 op with feedback	9:1
11	3 op	1:1:1
21	3 op	2:1:1
31	3 op	3:1:1
51	3 op	5:1:1
91	3 op	9:1:1
22	3 op	2:2:1
42	3 op	4:2:1
82	3 op	8:2:1
1.1	3 op with feedback	1:1:1
1:2	3 op with feedback	1:2:1
1:3	3 op with feedback	1:3:1
1:5	3 op with feedback	1:5:1
1:9	3 op with feedback	1:9:1
1.F	3 op with feedback	1:1:2
2.F	3 op with feedback	2:1:2
3.F	3 op with feedback	3:1:2
5.F	3 op with feedback	5:1:2
9.F	3 op with feedback	9:1:2

DIGITAL WAVEFORM CATEGORY

This category features 32 different sampled waveforms with different tonal character. In this category the timbre knob does not have any effect on the different waveforms.

Timbre control

This knob governs the amount of modulation applied to the Timbre parameter. The Timbre parameter can be controlled by Velocity or the Mod Envelope. The **TIMBRE CONTROL** knob controls the modulation amount for the different modes/algorithms in the FM category.

Velocity

If you turn the **TIMBRE CONTROL** knob clockwise, the Timbre will be raised if you play harder.

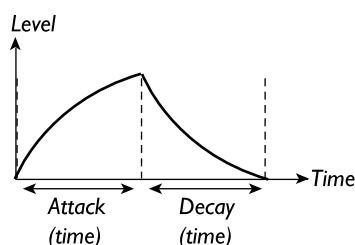### Mod Env

If you press **SHIFT** and turn the **TIMBRE CONTROL** knob so that the **MOD ENV** LED lights up, the Timbre parameter will instead be modulated by the Mod Envelope (see page 37).

Mod Envelope

The Mod (Modulation) Envelope is a simple type of envelope only comprising Attack and Decay/Release. It sends out a control signal that could look like in the figure below.

In this illustration, the Mod Envelope outputs a control signal that rises to maximum amount at the set Attack time and then falls back to zero at the set Decay time.

The Mod Envelope can control the Filter Frequency and the Timbre parameters, and the amount of Mod Envelope is set with the respective **FREQ/TIMBRE CONTROL** knobs. The Mod Envelope can be used either as an Attack/Decay or Attack/Release envelope or, in Repeat mode, as a LFO with shapable waveform (Attack and Decay times).

Attack
Attack sets the time it should take for the envelope to reach maximum level after you have pressed a key. Turn the **ATTACK** knob clockwise to increase Attack time.

Env Vel
If you press **SHIFT** and turn the **ATTACK** knob so that the **ENV VEL** indicator lights up, the amount of Mod Envelope applied will be velocity controlled (i.e. how hard or soft you play).

Decay/Release
When the attack phase is over, the envelope drops back to zero level. Use the **DECAY** knob to set the time this should take.

Instead of having a Decay time, you can switch to have a Release time instead (see figures below). When you press a key, the Attack phase proceeds as usual. When the Attack phase is over the envelope remains

on the maximum level for as long as you hold down the key. When you release the key, the Release phase starts and the amount falls back to zero.
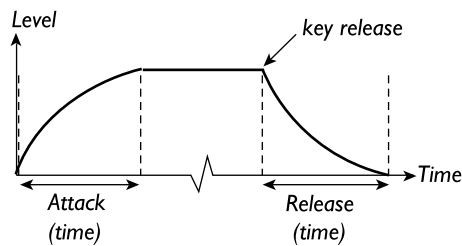

In Attack/Release mode, the control signal from the Mod Envelope behaves basically like this

Hold down **SHIFT** and turn the **DECAY** knob so that the lower LED in the Env Mode section lights up to select Release time instead of Decay. Hold down **SHIFT** and turn the **ATTACK** knob to revert to Decay time.

REPEAT

Hold down **SHIFT** and turn the **DECAY** knob so that both LEDs in the Env Mode section light up to select Repeat mode. This makes the Modulation Envelope restart directly after the Decay phase, creating cyclic modulation (like an LFO) with "shapable" waveform where you can change the waveshape and cycle time by adjusting the Attack and Decay times.

Page 38
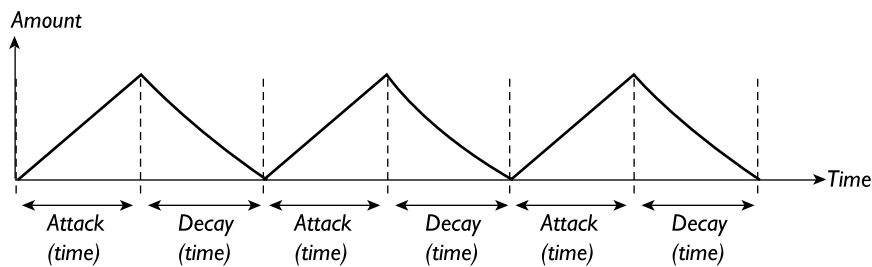
AMP ENVELOPE

An amplifier is most often used at the final stage of a synth signal chain, to control volume. By modulating the amplifier with an envelope, the sound can be given its basic "shape". In fact, the "volume shape" is one of the most important factors to how we identify the sound. By setting up a proper volume envelope you can make a sound "soft", "hard", "plucked" "static" etc. The Amp Envelope has basic Attack and Decay/Release parameters.

ATTACK

The **ATTACK** knob is used to adjust how long it should take for the sound to reach from zero to full amplitude after a key has been pressed. With long Attack settings the sound will gradually "fade in".

ENV VEL

If you press **SHIFT** and turn the **ATTACK** knob so that the **ENV VEL** indicator lights up, the amount of Amp Envelope applied will be velocity controlled (i.e. how hard or soft you play).

DECAY/RELEASE

When the attack phase is over, the envelope drops back to zero level. Use the **DECAY** knob to set the time this should take.

Instead of having a Decay time, you can switch to have a Release time instead (see figures below). When you press a key, the Attack phase proceeds as usual. When the Attack phase is over the envelope remains on the maximum level for as long as you hold down the key. When you release the key, the Release phase starts where the level falls back to zero.
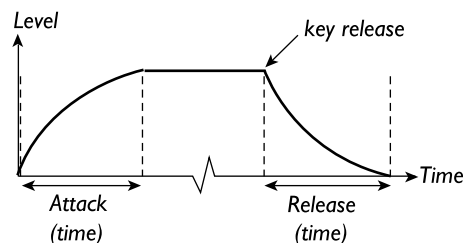
In Attack/Release mode, the signal from the Amp Envelope behaves basically like this

Hold down **SHIFT** and turn the **DECAY** knob so that the lower LED in the Env Mode section lights up to select Release time instead of Decay. Hold down **SHIFT** and turn the **ATTACK** knob to revert to Decay time. If you hold down **SHIFT** and turn the knob so that both LED's light up, you will get a alternative decay mode with a short release.
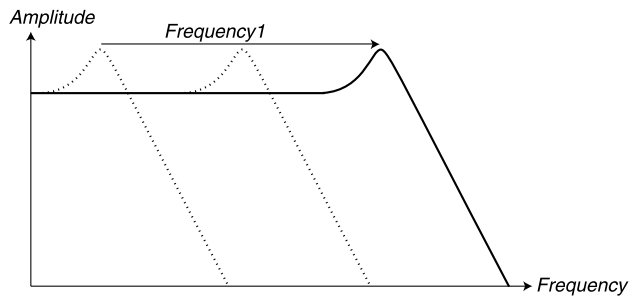
Filter Section

The Filter section in Nord Stage comprises a lowpass filter with either a 12dB or 24 dB slope.

Filter Frequency Cutoff

With the **FREQ** knob you set the cutoff frequency. Simply put, if you turn the **FREQ** knob clockwise, the high-frequency content in the signal will increase. This parameter can be Morph controlled.

When you "open" a lowpass filter, the high-frequency content increases in the output signal.

LP Filter

In Nord Stage you can select between 12 dB/octave and 24 dB/octave (4-pole) slopes for the low pass filter. Press **SHIFT** + the **4 POLE** button to switch type. The "4-Pole" LED shows which filter mode is selected.
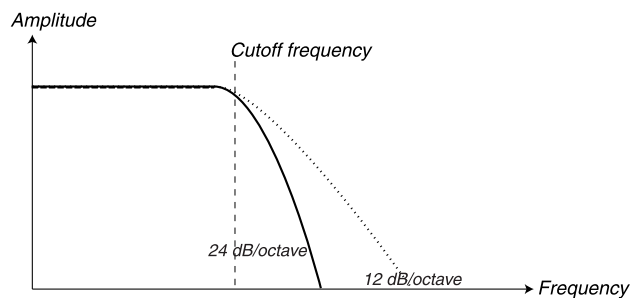
The figure shows the filter with 24 dB and 12 dB slopes.

24 dB (4-Pole)

This is the classic "synth filter" slope used in the Minimoog and Prophet-5 among others. It cuts out frequencies rather drastically, 24 dB per octave. A 24 dB filter is also known as a 4-pole filter.

12 dB

The 12 dB/octave slope leaves more harmonics than the 24dB variation discussed above. This type of filter has been used in various early Oberheim synthesizers and others. A 12 dB filter is also known as a 2-pole filter.

KB Track

The reason for having the Keyboard Track switch is related to basic acoustics. If you raise the pitch of a waveform, the harmonics naturally raise in frequency. If the cutoff frequency is constant, the sound will be perceived as getting "muddier" the higher up the keyboard you play. To avoid this effect, use KB Track.

KB Track (keyboard tracking) has three modes; "FULL", "2/3" and "1/3", which is set with the **KB TRACK** button. With KB T turned off (both LEDs off), the filter frequency setting is constant regardless of where on the keyboard you play. When Keyboard Track is activated, the filter frequency setting will be higher for higher notes as indicated in the illustration below. At "Full" tracking (both LEDs on) the filter frequency tracks the keyboard 100% (if you turn up the Resonance parameter to full so that the filter self-oscillates and produces a pitch, Filter Frequency will track to 12 notes/octave). If "2/3" or "1/3" is selected, the filter frequency/keyboard relationship is more subtle, i.e. the filter frequency will increase less with higher notes (66% and 33% respectively).
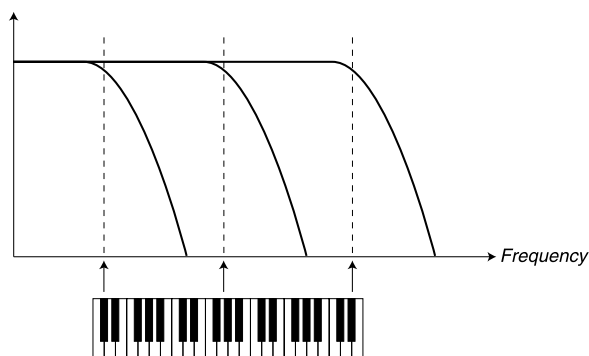
The figure shows how the Frequency1 value changes according to where on the keyboard you play when **KB TRACK** *is activated.*

Resonance

The Resonance parameter is used to further adjust the characteristics of the Filter. Increasing the Resonance will emphasize frequencies around the set Filter Frequency (cutoff frequency), making the sound thinner. Further raising the Resonance will make the sound resonant to a point where the filter starts to self-oscillate and produce a ringing pitch. Exactly where in the frequency spectrum this "ringing" occurs, depends on the Frequency value.
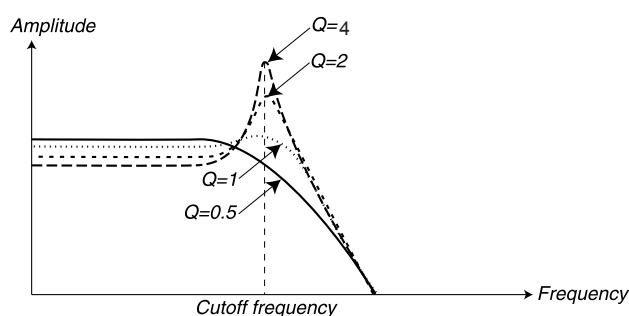
The figure shows a 24 dB lowpass filter with different resonance amounts (Q-values).
Q=0.5 represents zero Resonance amount and Q=× maximum amount.

Frequency Control

This knob governs the amount of modulation applied to the Filter Frequency. The Filter Frequency can be controlled by Velocity or the Mod Envelope. The **FREQ CONTROL** knob controls the modulation Amount for both modes.

Velocity

If you turn the **FREQ CONTROL** knob clockwise, the filter frequency cutoff will be raised if you play harder.

Mod Env

If you press **SHIFT** and turn the **FREQ CONTROL** knob so that the **MOD ENV** LED lights up, the filter frequency will instead be modulated by the Mod Envelope (see "Mod Envelope" on page 37).

Voices section

Legato/Mono

This section allows you to set various voice modes.

Mono mode

In Mono mode you can only play one note at a time, just like on a traditional monophonic synthesizer. If you play one key and then a second key without releasing the first key, the last note will sound. If you now release the last key, the first one will retrig and start sounding again.
To activate Mono mode, press the **SELECTOR** button so that the **MONO LED** lights up.

Legato mode

To activate Legato mode, press the **SELECTOR** button so that the **LEGATO LED** lights up.
In Legato mode you can only play one note at a time, just like on a traditional monophonic synthesizer. If you play a new key before releasing the previously played key (legato), the new note will replace the previous one at the current Envelope phase of the previously pressed key. I.e. the new note will not retrigger the Envelopes (Amp and Mod).
If you release the last played key before playing a new key (non-legato), the new note will sound exactly like in Mono mode, i.e. the complete Envelopes will be retriggered.

Glide (portamento)

When activated, the Glide function makes the pitch "glide" from one note to the next when playing (this is sometimes called portamento). It operates in legato/mono mode only. The glide characteristics can be described as "constant rate", which means that the greater the "distance" between two subsequent notes, the longer the glide time. Turn the **GLIDE** knob clockwise to increase the glide rate.

Auto

Press **SHIFT** and turn the **GLIDE** button to select Auto Glide mode (the Auto LED is lit). This means that glide is active only when you play legato (you press a new key before you release the previous key).

Unison

When you activate Unison, several slightly detuned voices are added to the basic sound for fat chorus effects. Note that Unison doesn't reduce the polyphony!

• You adjust the detune amount among the voices with the **UNISON** knob.

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Vibrato

Vibrato modulates the pitch of the oscillators to produce natural vibrato effects. There are three basic methods you can use to control Synth Vibrato which is set using the **SELECTOR** button in the Vibrato section:

- If Aftertouch (A.Touch) is selected you can control the vibrato by pressing down held notes on the keyboard. See "About Aftertouch" on page 56.

- You can also control vibrato using the Mod Wheel.

- There are also three delay (Dly 1-3) modes which automatically activates vibrato after a certain time for held notes. The difference between the three delay modes is the time it takes for vibrato to activate; Dly1 is the fastest time and Dly3 the slowest. The basic Delayed Vibrato depth and speed settings are set globally on the Sound Page - see "Sound Menu" on page 62.

EQ

The Synth also features a basic 2 band EQ section. This allows you to quickly boost or cut treble and bass frequencies by +/- 15 dB. Turn the **TREBLE** or **BASS** knob clockwise (from center position) to boost the respective frequency band and vice versa. A LED indicates when the EQ is active.
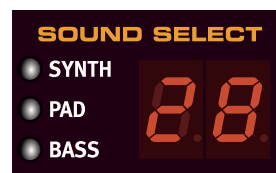
Sound Select section

When you save a Program the current Synth settings are naturally stored together with all other panel settings, but the Sound Select section allows you to select/store Synth sounds separately from Programs.

Selecting Synth sounds

The available memory slots are divided into three categories; Synth, Pad and Bass, with 99 memory slotsin each category. Having categories helps you quickly find the type of sound you are looking for.

Use the two **SOUND SELECT UP/DOWN** buttons to step through all the available sounds. To jump between categories, press **SHIFT** and the **SOUND SELECT UP/DOWN** buttons. When you select a sound, the name is shown briefly in the main Display. The smaller LCD Display in the Sound Select section always shows the patch number.If a Synth sound has been edited, a dot is shown after the number to reflect this in the Display.

Storing Synth Patches

To store a Synth Patch, press **SHIFT** and the **STORE SYNTH** button in the Voices section. The display in the Sound Select section starts blinking. You can now use the **SOUND SELECT UP/DOWN** buttons to navigate to a memory location where you would like to store your Patch. To switch category, press **SHIFT** and the **CATEGORY** buttons.

To name a Synth Patch you can use the **PAGE -/+** buttons to move the cursor and the **VALUE DIAL** to select character just as for Programs, see page 13.

To store, press the **STORE SYNTH** button again.

Sound Init

To start with a "clean slate" when programming sounds you can use the Sound Init function. This will initialize the Patch to basic default settings. This is done by pressing **SHIFT** and the **VIBRATO SELECTOR** button.

7. THE EFFECTS

ABOUT THE EFFECTS

The Effects available in Nord Stage can be divided into three main categories:

- **Panel Effects** - these can affect one instrument (per Panel) at a time. Panel effects are the effects in the main Effects section and in the AmpSim/EQ section. All Panel effects have independent settings for Panel A and B, thus you have two sets of Panel effects available for each Program. See below for a description of the Panel effects.

- **Global Effects** - these affect all instruments routed to the main outputs CH1 & CH2. The Compressor and Reverb on the far right of the front panel are global effects. See .

- The **Rotor Effect** works slightly differently compared to Panel effects. See .

ABOUT MONO/STEREO AND EFFECT ROUTING

Some of the effects are mono in/out, some are stereo in/out and others are mono in/stereo out. For each individual effect the channel configuration is stated in the related text. The internal routing of some effects, means that the instrument level has to be taken into account. Whenever this applies it will also be explained in the corresponding effect description.

THE PANEL EFFECTS

ACTIVATING PANEL EFFECTS

To add an individual effect to an instrument, you simply press the **ON/OFF** button at the bottom of the corresponding effect section. This will automatically select the instrument section (ORG/PIANO/SYNTH) that the selected effect currently points to as the source (indicated by a lit LED below the name of the instrument). To select another instrument to be processed by the effect, press **SHIFT** and the **SOURCE** button to change instrument.

MAKING SETTINGS FOR PANEL EFFECTS (EFFECTS SECTION)

To make settings for individual effects in the main "Effects" section (Effect 1/Effect 2/Delay), you mainly use the **RATE/TEMPO** and **AMOUNT** knobs. Which parameters these two knobs control depend on the selected effect - these are described for the corresponding effects below. The **RATE/TEMPO** and **AMOUNT** knobs can also be Morph controlled - see .

About the Focus button

If you have more than one effect activated in the Effects section (e.g. Effect 1 and Effect 2), The **FOCUS** button is used to select which effect's settings (Rate/Tempo and Amount) you currently "see" and can edit. Pressing the Focus button will alternate focus between the currently activated effects. The LED beside the corresponding Effect 1/Effect 2/Delay section is lit for the edit active effect.

Effect 1

The Effect 1 section offers six different types of modulation. You use the **SELECTOR** button to switch between the available modulation effects. The following effects are available:

RM (Ring modulation)

Ring Modulation is a type of modulation where two signals are multiplied with each other. The result is an inharmonic "bell like" sound. Herbie Hancock used this effect a lot in the '70s. In the Nord Stage the instrument signal is multiplied with an additional sinewave. When RM is selected you set the sinewave pitch with the **RATE/TEMPO** knob and the amount of ring modulation with the **AMOUNT** knob.
This effect is mono in/out.

Trem (Tremolo)

Tremolo is basically volume modulation that continuously varies the output signal volume. Tremolo is a commonly used modulation, especially for Wurlitzer electric pianos.
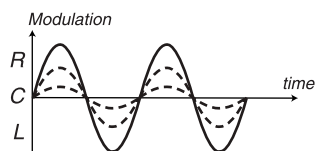The Tremelo effect is stereo in/out.
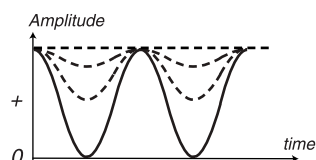
*The filled curve indicates maximum **AMOUNT** value and the dashed curves indicate lower **AMOUNT** values. At zero **AMOUNT** value the output level is constantly at maximum level (the straight dashed line).*

Use the **RATE/TEMPO** and **AMOUNT** knobs to control the Tremolo rate and depth. Note that the output volume is at maximum level at zero **AMOUNT** setting.

A-Pan (Auto Pan)

The A-Pan is an auto panning modulation that smoothly pans the signal between the Left and Right outputs.

*The filled curve indicates maximum **AMOUNT** value and the dashed curves indicate lower **AMOUNT** values. The signal smoothly pans between the **L**eft and **R**ight outputs as indicated in the figure.*

You control the rate and amount of panning with the **RATE/TEMPO** and **AMOUNT** knobs. The Pan effect is stereo in/out.
Tip! If the **RATE/TEMPO KNOB** is set to zero you can place the signal processed by A-Pan anywhere in the stereo field manually by using the **AMOUNT** knob, just like a pan control on a mixer.

Wah-Wah

The Wah-Wah modulation is often used for electric guitars to get that characteristic "talking guitar" sound. Wah-Wah can also be extremely useful on electric piano sounds. Try out the Clavinet sound with Wah-Wah modulation and you'll understand. Basically, the Wah-Wah modulation is a lowpass type of filter that can be swept across the frequency range. During the sweep, the filter's characteristics also changes. The Wah effect is mono in/out.
For the Wah-Wah1 modulation you control the "pedal position" with the **RATE/TEMPO** knob and the wet/dry mix with the **AMOUNT** knob.
If you use an expression pedal connected to the CONTROL PEDAL INPUT you can control the filter sweep and thus the Wah-Wah effect from the pedal by using the Morph function - .

A-Wha 1&2 (Auto-Wah)

Auto-Wah 1-2 are variations of the Wah-Wah effect described above. For **A-Wha** you control the filter sweep range from the signal's amplitude envelope (envelope follower). For the Auto-Wah 1 modulation you control the range with the **RATE/TEMPO** knob and the wet/dry mix with the **AMOUNT** knob. **A-Wha** 2 works in the same way, but produces a different character.

EFFECT 2

The Effect 2 section offers six types of vintage style effects to add that extra flavour to your sounds.

FLANGER 1&2

The flanger produces a very characteristic comb filter effect. You set the flanging rate with the **RATE/TEMPO** knob and the amount with the **AMOUNT** knob. The Flanger effect is mono in/out.

PHASER 1&2

The phaser effect produces a very characteristic "sweep" effect commonly used with electric piano sounds. You control the rate of the phase shift with the **RATE/TEMPO** knob and the phase shift amount with the **AMOUNT** knob. This effect is mono in/out.

CHORUS 1&2

The Chorus effect simulates having several slightly detuned signals. You set the rate for the chorus effect with the **RATE/TEMPO** knob and the amount with the **AMOUNT** knob. This effect is stereo in/out.

DELAY

The Delay effect produces echo/repeat effects. It has the following parameters:
You set the Delay time with the **RATE/TEMPO** knob, and the **AMOUNT** knob adjusts the balance between the dry signal and the delay repeats.
The **FEEDBACK** knob controls the number of delay repeats. Delay is stereo in/out.

PING PONG

If you press **SHIFT** and turn the **FEEDBACK** knob so that the **PING PONG** indicator lights up, the delay repeats will alternate between the left and right channels. When short delay times are used, the repeats will be "asymmetrical" and produce delays that are more like early reflections in reverb units.

TAP TEMPO

You can also use Tap Tempo to set a delay time matching the tempo of a song. Simply tap the **TAP TEMPO** button in the tempo you wish the delay to sync to a number of times, and the delay time will adjust automatically. As long as the Tap Tempo LED is lit the tempo is calculated - wait until it goes dark to tap in another tempo.

Ampsim/EQ

This effect section combines an equalizer with amplifier and speaker cabinet simulation, for overdrive effects. This effect is mono in/out.

Drive

The **Drive** knob controls the amount of overdrive for the Ampsim section. If the Drive LED is on, it indicates that overdrive is active.

EQ section

This is a 3-band equalizer which features controls for bass, midrange and treble. When there is no amp modelling, the EQ operates like a standard mixer EQ, with +/- 15 dB boost/cut for each band .
When amp modelling is used, boosting and/or cutting will produce different tonal charcteristiscs, depending the selected amp model.

Amp model

You select a type of amplifier/speaker simulation using the **SELECTOR** button in the Amp Model section. There are three Types available, with different characteristiscs. If all LEDs are off, the effect combines EQ with overdrive (no amp/speaker modelling).

Global effects

If activated, the Compressor and Reverb effects will process all signals routed to the CH 1/CH 2 outputs, but do not affect any signals routed to the CH 3/CH 4 outputs. Both these effects are stereo in/out.

Compressor

The Compressor will even out the dynamics of what you play, making low level sounds louder and high level sounds lower. This produces a tight, punchy sound and makes the overall level easier to control in a live mix situation. You activate the Compressor using the **ON** button. The **AMOUNT** knob logically controls the amount of compression applied.

Reverb

The Reverb section simulates the natural sound reflections in various acoustic environments. You can choose between three basic reverb types:

• Hall - a spacious reverb environment with long decay.

• Stage - a medium sized environment.

• Room - this produces room ambience with a short decay.

The **DRY/WET** knob sets the balance between the unprocessed and the processed signal.

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The Rotor section

The Rotor effect (rotary speaker simulation) in Nord Stage accurately reproduces the sound of the rotating horn and bass rotor, as well as the characteristics of the built-in amplifier of the original Leslie units. The Rotor effect is mono in/Stereo out.

- You activate or deactivate the Rotor effect for a selected instrument in the same way as Panel Effects (see).

- You switch between fast and slow rotor speeds by pressing the **SPEED** button.

- To stop the rotors, press the **STOP** button (this does **not** deactivate the Rotary Speaker simulation - it only stops the rotors). When you press the **STOP** button again the rotors will accelerate to the current Rotor Speed setting.

The **DRIVE** knob controls the amount of overdrive. This simulates the pre-amp overdrive effect of the original Leslies.

By plugging in a sustain pedal or a foot switch to the **ROTOR SPEED PEDAL** input you can control the Rotor speed, see . The Rotor Speed can also be Morph controlled - see .
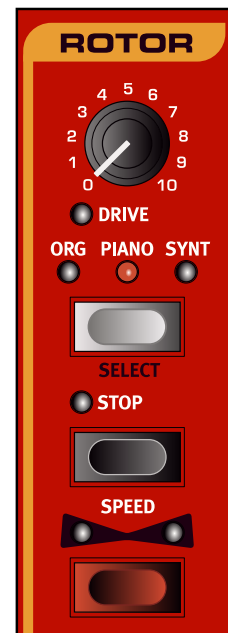
About the Rotor effect's internal routing

The Rotor effect is internally placed after the panel effects in Nord Stage. It also "sums" signals if both Panel A and B are active. This means that if you are using a split organ setup for example, both "manuals" will be affected by the Rotor (just like on a the real thing).

Note also that the Rotor Drive parameter is dependent on the processed instrument's Level setting. If the instrument being processed by the Rotor uses a very low level setting, the amount of available drive will be significantly reduced. Again, this is very much like it works with the "real articles" - when you increase the organ level, e.g. by using a swell pedal, the amount of distortion from the Rotor effect increases.

8. KEYBOARD ZONES AND DUAL PANEL SETUPS

ABOUT KEYBOARD ZONES

You can split the Nord Stage keyboard in up to three Keyboard Zones; Lower (LO), Upper (UP) and High (HI). You can then assign any of the Instrument sections to any (or all) of these zones.

CREATING A SPLIT

Creating a split so that different instruments are assigned to different keyboard zones is very easy to set up. Proceed as follows:

1. Activate two instrument sections, e.g. an organ sound and a piano sound, by pressing the **KB ZONE SELECT** buttons in each corresponding section so that the **KB ZONE** LEDs (Lo/Up/Hi) light up. If you now play the keyboard you should now hear both instruments layered.

2. Press the **KB ZONES 2** button. This splits the keyboard into two Zones, an upper and a lower. The split point is indicated by a green LED above the corresponding key on the keyboard.

3. To assign the Organ instrument section to play on the lower Keyboard Zone only, hold down **SHIFT** and then press the **KB ZONE SELECT** button for the Organ section until only the LO KB Zone indicator is lit.

4. To assign the Piano instrument to play on the upper half of the keyboard hold down **SHIFT AND** press the **ZONE SELECT** button for the Piano section until both the UP/HI KB Zone indicators are lit.

Now the lower half of the keyboard will play the organ sound, and the upper half will play the piano!

To activate all three Keyboard Zones, press the **KB ZONES 3** button. Now the keyboard is split into three Zones.

Now if you press the **ZONE SELECT** button for an Instrument section, you can step through the following options:

• **LO/UP/HI** indicators lit - the corresponding instrument will play across all Zones 1-3.

• **LO** indicator lit - the corresponding instrument will play across Zone 1 only.

• **LO/UP** indicators lit - the corresponding instrument will play across Zones 1-2.

• **UP** indicator lit - the corresponding instrument will play across Zone 2 only.

• **UP/HI** indicators lit - the corresponding instrument will play across Zones 2-3.

• **HI** indicator lit - the corresponding instrument will play across Zone 3 only.

Setting split points to change Zone ranges

You can set the split points for Zone 2 and 3 in the following way:
Press **SHIFT** and **KB ZONE 2** button repeatedly. As you can see the green split indicator above the keyboard alternates between the available split points. There are split points at C and F in each octave.
You use the same method but use the **KB ZONE 3** button to set the split point for Zone 3.

Layering instruments

By assigning two or three instrument sections to play the same zones, they will be layered, i.e. play at the same time. You can freely select which instrument(s) should play for each Zone, e.g. you could have a piano assigned on its own to the Upper Zone, but have piano layered with organ in the HI Zone.

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OCTAVE SHIFT

Each Instrument section and the Extern section have two **OCTAVE SHIFT** buttons, which can be used to transpose the notes up or down in octave steps within the total note range of the instrument.
Each instrument in Nord Stage has a finite note range, and only the Synth and the Organ can extend the range beyond the 88 notes of the keyboard.
Thus, if a piano instrument is set play across the whole keyboard, Octave Shift will not work, as the whole range is already accessible.

But when you are using splits, e.g. so that a piano is set to play in a Zone with a range of 2 octaves, you can use the **OCTAVE SHIFT** buttons to transpose the piano up or down to select *which* 2 octave range of the available 8 octaves is to play in this Zone. Thus, you can always access the whole note range of any instrument within any set Zone range.

KB Zone

Down 2 octaves
Down 3 octaves
Up 1 octave
Up 2 octaves
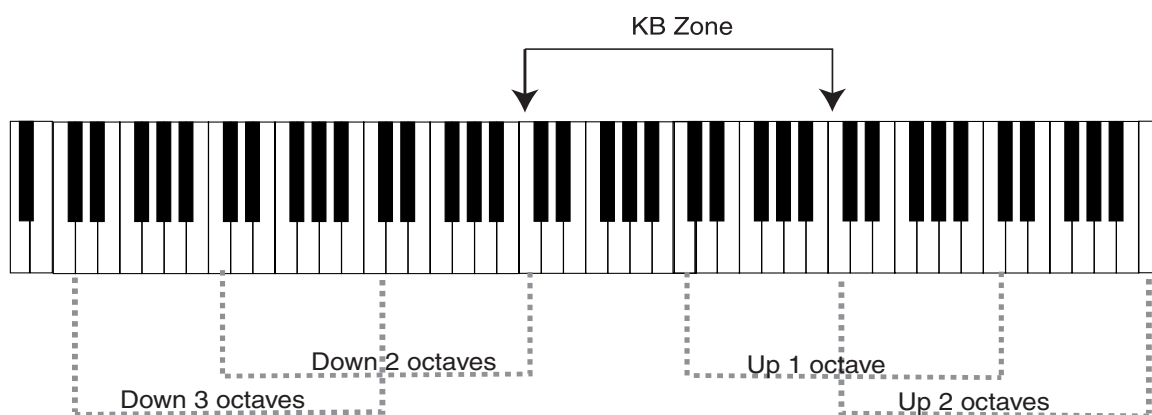
In the illustration above, a piano has been assigned to play in a KB Zone stretching from C4 to C6. Without Octave Shift, the actual note range that will be played will be the same as the set Zone. The dotted lines show which note range will be played in the set Zone when using Octave Shift. In this case you can transpose the piano up or down two octaves so you can play any two octave note range from the selected Zone. No matter what a Zone range is set to you can always reach the entire note range of any instrument.

DUAL PANEL SETUPS

If you press both **PANEL A** and **PANEL B** buttons so that they both light up, this means that both Panels are active. One of the Panels is always "edit active", i.e. it is the panel settings for either Panel A or Panel B that is currently shown and can be edited. The active Panel is indicated by a blinking **PANEL** button. To show/edit the settings for the other Panel press the corresponding **PANEL** button so that it starts blinking. When you have both Panels active you have access to two of each Instrument section, and two Effect sections. Amongst other things, this allows you to play two sounds from each Instrument section simultaneously, e.g. a Clavinet and a Rhodes or two Synths. For the Organ section things work slightly differently. Instead of two completely separate organ sections, you get a Lower/Upper manual split, like on a real B-3. See "About Split Organ Setups" on page 26.

Keyboard Zone split points are global, i.e. they are the same for both Panels.

Using an external keyboard (Dual KB)

If you like to use an external keyboard to control one of the Panels, you set it up as follows:

• Select a MIDI channel to transmit over from the external keyboard, and select the same MIDI channel as the "Dual KB" channel on the Nord Stage MIDI page menu - see "MIDI menu" on page 62.

• Press **Shift** and the **Panel B** button so that the **Dual KB** indicator lights up.

Now the internal keyboard will control Panel A and the external keyboard will control Panel B. It is not possible to activate both Panels in this mode.

This function is ideal for live situations when you have a second keyboard in your rig that you mostly use to play internal sounds, but would in certain circumstances like to use to play the Nord Stage "double manual". By activating Dual KB you can quickly switch between these modes without having to bother with MIDI menus. Having this function easily accessible on the front panel makes its easy to turn off and prevent the external keyboard to play when its used to play its own sounds.

9. The Morph Assign feature

About Morph Assign

The three main **MORPH ASSIGN** buttons are located in the Program section.

The Morph function can be used to control single or multiple parameters using the **Wheel**, a connected **Control pedal** or **Aftertouch** (see "About Aftertouch" on page 56). This gives you plenty of real-time control possibilities to augment your playing style. It is very simple to set up and use, and all Morph assignments are stored with the Program.

Many of the Factory Programs have Morph assigned parameters. If a Program uses Morph one or more of the **MORPH ASSIGN** indicators will be lit to indicate this.

E.g. if the **WHEEL** indicator in the Morph Assign section is lit for a Program you can move the wheel and all Morph assigned parameters will move correspondingly so you "see" exactly what parameters are currently assigned.

Using Morph - an example

In this example we shall describe how to assign Morph to the **LEVEL** rotary encoders for two Instrument sections and use the Wheel to lower the level of one instrument while simultaneously raising it for the other. This allows you to "morph" seamlessly between two sounds by using the Wheel.

1. Set up so that you have two Instrument sections active e.g. the Piano and Organ section, and that these are assigned to the same Zones so that they are layered when you play the keyboard.

2. Set the **LEVEL** knob for one of the two active instrument sections to the maximum value (fully clockwise) and the **LEVEL** knob for the other active instrument section to the minimum value (fully counter-clockwise).

3. Hold down the **WHEEL** button in the Morph Assign section and turn the **LEVEL** knob set to maximum value down to minimum value.

As you can see, the encoder LED pointing to the maximum value position (where it initially was set) stays lit and the encoder LED pointing to the minimum value position (where you just set it) is also lit. The two lit encoder LEDs now indicate the Level range (see "About setting Morph parameter ranges" on page 56) controlled by the Morph Assign function, which in this case was the full range of the Level rotary encoder.

4. Release the **WHEEL** button in the Morph Assign section and push the Wheel forward. The Level knob is now controlled by the Wheel and the LED's continuously reflect the level changes when moving the Wheel. In this example, when the Wheel is fully forward the Level goes down to zero, and when you move the Wheel back the Level goes back up to maximum.

5. Hold down the **WHEEL** button in the Morph Assign section again while turning the Instrument **LEVEL** knob that was set to minimum value in Step 2 up to maximum value.

6. Release the **WHEEL** button in the Morph Assign section.

7. When you now move the Wheel, the Level is gradually lowered for one instrument and raised for the other instrument, allowing you to "morph" between the two instruments!

Morph Assignable parameters

Basically you can use the Morph function to control all rotary encoders (knobs that show parameter values with LEDs) and the organ drawbars. Apart from the number of assignable parameters, there is no limit to how many parameters you can control simultaneously using Morph.

The following parameters can be Morph controlled:

• The **LEVEL** knobs for all Instrument sections.

• The **TIMBRE** knob in the Synth section.

• The **FILTER FREQUENCY** knob in the Synth section.

• The **DRAWBARS** in the Organ section.

• The Effect **RATE/TEMPO** knob.

• The Effect **AMOUNT** knob.

• The **PARAMETER** knob in the Extern section (see).

• The **ROTOR SPEED** button - Note that this is not visible! E.g. hold down the **WHEEL** button in the Morph Assign section, and press the **ROTOR SPEED** button once. Now the Wheel controls the Rotor Speed. Note also that this enables you to set Rotor Speed continuously, instead of just alternating between two fixed speeds. To deactivate, hold down the **WHEEL** button in the Morph Assign section, and press the **ROTOR SPEED** button again.

About setting Morph parameter ranges

In the previous example we controlled the full range of two Instrument **LEVEL** knobs with Morph. But you can also set relative ranges for parameters. For example, you could assign one parameter to be controlled fully (min/max), and another parameter knob to be controlled from 12 o'clock position to 3 o'clock position. This would mean that the first parameter would vary between the min and max values whereas the second parameter would vary between 12 o'clock position to 3 o'clock within the Morph assigned controller's full range.

When you press and hold down one of the buttons in the Morph Assign section to assign Morphing, the initial position of a parameter determines the **first** value, and the position you move the parameter to determines the **second** value. Using the Wheel as an example, this means that when you move the Wheel fully forward the parameter will move from the first value to end up on the second value.

Clearing Morph Assignments

To clear Morph Assignments, press **SHIFT** and the corresponding button in the Morph Assign section that stores the assignments that you wish to clear.

To remove an individual parameter, hold down the **MORPH ASSIGN** button that the parameter is assigned to. The current range will be shown by the rotary encoder LEDs for the parameter. Move the rotary encoder until both LEDs go off to erase the Morph assignment.

About Aftertouch

We have previously used the Wheel as an example controller, but you can also use Aftertouch to Morph control parameters.

The Nord Stage keyboard can respond in two ways to how you play. The first is velocity (not applicable for organ sounds or Morph), which means that the faster the player presses a key down, the higher the velocity value. Once a key is played and held down, there is also 'Aftertouch' (sometimes called channel pressure). The player can apply more pressure on a key while it is down; and this will generate a signal that can be used to control parameters.

10. THE EXTERN SECTION

ABOUT THE EXTERN SECTION

A good stage instrument wouldn't be complete if it didn't allow you to control external MIDI instruments. Normally you can do this by simply connecting an external instrument via MIDI. Although this works, it usually doesn't provide the flexibility and control that you need in live situations. Perhaps you want to use splits, perhaps you want to be able to switch the external instrument on or off at will, or perhaps you wish to change programs on the external instrument from your stage keyboard. All this is possible via MIDI of course, but it isn't always so easy to set up. And no musician wants to deal with complicated MIDI menus in a live situation.

When developing Nord Stage, Clavia aimed to make external control an integrated feature of the instrument, where all the essential external MIDI control functions would be as accessible and easy to use as the functions and parameters for the built-in instruments. And that's what you get in the Extern section!

SETTING UP

1. Connect a MIDI cable from Nord Stage's MIDI Out to the MIDI In on the external device.

2. Press **SHIFT** and the **EXTERN** button to access the Extern menu.

3. Use The **PAGE** buttons to access the "Extern MIDI Channel" page.

4. Use the **VALUE DIAL** to select the MIDI channel (1-16) you would like to transmit over. Press the **EXTERN** button again to exit the menu.

5. Set the external instrument to receive on the same MIDI channel.

USING THE EXTERN SECTION

ACTIVATING

Before Extern MIDI is sent out from Nord Stage, you have to activate the Extern section. This is done by pressing the **ON** button under the **PARAMETER** rotary encoder.

ABOUT KEYBOARD ZONES

You can activate Keyboard Zones to create splits and layers just as for the internal instruments. If you set the Extern section to only play in the LO Zone, the external instrument will only respond to notes played in this Zone. In other words, it works transparently together with the built-in instruments! See "Keyboard Zones and Dual Panel setups" on page 50 for information on how to set up and use Keyboard Zones.

Octave Shift

The **OCTAVE SHIFT** buttons in the extern section also work exactly as for internal instruments. As with them, the shift range depends on the total note range of the external instrument, and the range of the Keyboard Zone(s) that the external instrument is currently assigned to. See "Octave Shift" on page 52.

Activating Pitch Stick/Sustain Pedal messages

By pressing **SHIFT** and one of the **OCTAVE SHIFT** buttons you can set up whether Nord Stage should send Pitch bend and/or Sustain pedal messages via the Extern MIDI channel (a lit LED indicates it is activated).

The Parameter section

The Parameter section comprises the three buttons in the Parameter Select section and the **PARAMETER** rotary encoder at the top. Simply put, you select a parameter and vary the value of the selected parameter with the rotary knob. The **PARAMETER** rotary encoder can also be Morph controlled - see page 54. The following parameters can be set using the Parameter Select buttons:

Volume

If this is activated, the **PARAMETER** rotary encoder will send MIDI Volume messages (0-127), allowing you to control the level of the external device. The external instrument may have to be set to receive MIDI CC messages for this to function. You can turn this off on the Extern menu - see "Extern menu" on page 63.

Prog Change

When this is on, the **PARAMETER** rotary encoder will send Program Change messages (0-127). This allows you to select Programs for the external instrument. This works slightly differently than for other parameters. The Parameter rotary encoder will in this mode send a Program Change message for each individual rotary encoder LED. To access all 127 messages simply continue to turn the rotary encoder multiple times - it will continue to send messages across the whole range. The external instrument may have to be set to receive MIDI Program Change messages for this to function.
You can turn this off on the Extern menu - see "Extern menu" on page 63.
(If the external instrument organizes programs in Banks, there is an option to send Bank Change messages on the Extern Menu page, - see "Extern menu" on page 63.)

MIDI CC

This allows you send MIDI Control Change messages to control a parameter of your choice on the external instrument. You first have to decide which Controller number the **PARAMETER** rotary encoder should send value changes for. This is done on the Extern Menu:

1. Press **SHIFT** and the **EXTERN** button to access the Extern menu.

2. Use the **PAGE** buttons to select the "Extern MIDI CC Number" menu page.

3. Use the **VALUE DIAL** to select a MIDI CC Number (0-119). You may want to consult the manual for the external instrument to see which parameters are assigned to which CC numbers.

4. Press the **EXTERN** button again to exit the menu.

If you now activate the **MIDI CC** button in the Parameter Select section, you can control the selected external parameter using the **PARAMETER** rotary encoder in the Extern section. You can turn this off on the Extern menu - see . The external instrument may have to be set to receive MIDI CC messages for this to function.

ABOUT SEND ON LOAD

You can set whether Program Change, Volume or MIDI CC messages are sent out when you load a Program in Nord Stage. If you do not want this to occur, make sure "Send On Load" is set to "Off" on the Extern menu.

11. System functions

System functions are divided into four menus; "System, Sound, MIDI and Extern", which are accessed by using the corresponding buttons in the Program section.
All changes you make to system functions are automatically stored in Nord Stage.

System menu

Press the **SHIFT** + **SYSTEM** buttons to enter the System menu. You use the **PAGE -/+** buttons to navigate between the various pages on the System menu, and the **VALUE DIAL** is used to change settings.
When you are done, press the **SYSTEM** button again to exit the System menu.
The following items can be found on the System menu:

Function	Description	Range/Values
Transpose	Transpose allows you transpose the pitch of instruments up or down in semitone steps**.**	-/+ 6 semitones (in steps of 1 semitone). Default value is "0" (no transpose).
Fine Tune	Fine Tune can be used to adjust the pitch of instruments in finer increments.	+/- 50 Cents (half a semitone). Default value is "0" (no fine tune).
Organ Audio Output	This allows you to set which channel output pairs (or mono output) to use for the Organ section.	"1 & 2" (Default), "3 & 4", "3" ,"4"
Piano Audio Output	This allows you to set which channel output pairs (or mono output) to use for the Piano section.	"1 & 2" (Default), "3 & 4", "3" ,"4"
Synth Audio Output	This allows you to set which channel output pairs (or mono output) to use for the Synth section.	"1 & 2" (Default), "3 & 4", "3" ,"4"
Organ Keyboard Trig Mode	This allows you to change how the Nord Stage keyboard triggers Organ sounds. When "Fast" is selected, you will trigger organ sounds before the key is fully depressed. This mode closely mimics the way a real B-3 triggers notes.	Fast (Default), Normal
Sustain Pedal Polarity	This allows you to change the polarity of a connected sustain pedal, in case the functionality of the pedal is reversed (i.e. when the pedal is up, sustain is on and vice versa).	Open, Closed (Default)

Sustain Pedal Use as Rotor	You can connect a Sustain Pedal (as opposed to a switch pedal) to the Rotor Speed connector. If you wish to use a sustain pedal to control rotor speed set this to "Yes". Note that even if this is enabled, and you connect a pedal to the Rotor Speed input, this setting will be overridden and you will be able to use both pedals separately.	Yes, No (Default)
Rotor Pedal Polarity	This allows you to change the polarity of a sustain pedal connected to control Rotor Speed, in case the functionality of the pedal is reversed (i.e. when the pedal is up, Rotor Speed is fast and vice versa).	Open, Closed (Default)
Rotor Pedal Mode	If you are using a sustain pedal connected to control Rotor Speed this allows you to set how this should operate. "Hold" means that the Rotor Speed is fast for as long as the pedal is down and reverts back to slow when the pedal is released (or vice versa depending on the set pedal polarity). "Toggle" means that the fast/slow rotor speed is switched with a pedal depression, like an on/off switch pedal.	Hold (Default), Toggle
Ctrl Pedal Gain	Some makes of control pedals may not produce the full "control gain range" when connected to Nord Stage. When this page is selected you can "see" the range of a connected control pedal in the Display - when you press down the pedal a Monitor value is briefly shown (0-100%). The value should be 100% when the pedal is fully down. If it isn't, you can adjust the gain so that the pedal works properly.	1.00 to 1.50 (1.41 Default)
Control Pedal Use as Swell	You can use a control pedal to control organ swell. If you wish to do so set this to "Yes". Note that even if this is enabled, and you connect a pedal to the Organ Swell input, this setting will be overridden and you will be able to use both pedals separately.	Yes, No (Default)
Swell Pedal Gain	Some makes of control pedals may not produce the full "control gain range" when connected to Nord Stage's Organ Swell input. When this page is selected you can "see" the range of a connected control pedal in the Display - when you press down the pedal a Monitor value is briefly shown (0-100%). The value should be 100% when the pedal is fully down. If it isn't you can adjust the Gain so that it works properly.	1.00 to 1.50 (1.41 Default)
Memory Protect	This is set to "On" when Nord Stage leaves the factory, meaning that you cannot save any changes to Programs (this basically to prevent prospective customers from changing the factory programs when trying out the instrument). Set this to Off if you wish to store your own Programs.	On, Off

Sound Menu

Press the **SHIFT** + **SOUND** buttons to access the Sound menu.

You use the **PAGE -/+** buttons to navigate between the various menu items on the Sound menu, and the **VALUE DIAL** is used to change settings.

When you are done, press the **SOUND** button again to exit the Sound menu.

The following items can be found on the Sound menu:

Function	Description	Range/Values
Organ Key Click Level	This sets the amount of Key Click for B-3 organ sounds (see **"Key click control" on page 23**)	1-10 (Default value is 5)
Synth Vibrato Rate	This determines the rate of the Synth Vibrato.	4.00 - 8.00 Hz (Default 6.00 Hz)
Synth Dly Vibrato Amount	This determines the amount of Synth Vibrato when any of the vibrato delay modes are used.	0-50 cent (Default value is 25 cent)

MIDI menu

Press the **SHIFT** + **MIDI** buttons to access the MIDI menu.

You use the **PAGE -/+** buttons to navigate between the various menu items on the MIDI menu, and the **VALUE DIAL** is used to change settings.

When you are done, press the **MIDI** button again to exit the MIDI menu.

The following items can be found on the MIDI menu:

Function	Description	Range/Values
MIDI Control Local	Here you set whether the Nord Stage keyboard and front panel controls should control internal Programs or only send MIDI. Local On is the normal "play mode". In Local Off mode, the front panel and keyboard actions are transmitted via MIDI only and do not control the internal sound(s) directly.	On (Default), Off
MIDI Panel A/B Channel	This sets the MIDI channel for Panel A/B	1-16, Off (Default A ch 1) (Default B ch 2)
MIDI Organ A/B Channel	This sets the MIDI channel for the Organ section A/B	1-16, Off (Default off)
MIDI Piano A/B Channel	This sets the MIDI channel for the Piano section A/B	1-16, Off (Default off)
MIDI Synth A/B Channel	This sets the MIDI channel for the Synth section A/B	1-16, Off (Default off)
MIDI Dual KB Channel	This sets the MIDI channel for an external keyboard when using Dual KB mode - see page 53.	1-16, Off (Default 16)
MIDI Prog Change Mode	This allows you to set whether you want Nord Stage to transmit and/or receive MIDI Program Change Messages.	Off, Send, Receive, Send & Receive (Default)
MIDI Ctrl Change Mode	This allows you to set whether you want Nord Stage to transmit and/or receive MIDI Controller Messages.	Off, Send, Receive, Send & Receive (Default)

Send MIDI Ctrl	You can perform a dump of all MIDI Controllers for the selected Panel. See "Sending MIDI Controller dumps" on page 68.	Panel A, Panel B
Dump Program Source	Here you can perform a MIDI SysEx dump of the currently selected Program or of all 126 Programs of the internal memory (plus the Live buffers 1 & 2). See "Sending Program dumps" on page 68.	One (Default), All
Dump Synth Sound Sound	Here you can perform a separate MIDI SysEx dump of just the Synth memory banks. You can select to send a single sound category bank (Synth/Pad/Bass) or all banks. See "Sending Synth Sound bank dumps" on page 68.	Synth, Pad, Bass, All (Default)
Instrument SysEx ID	Most instruments have a unique Instrument ID #. If more than one of the same instruments are connected in a MIDI network, this ensures that no instrument will receive SysEx dumps not intended for it.	1-16, All (Default)

EXTERN MENU

Press the **SHIFT + EXTERN** buttons to access the Extern menu, where you can find settings and functions relating to the Extern section - see "The Extern section" on page 57.

You use the **PAGE -/+** buttons to navigate between the various menu items on the menu, and the **VALUE DIAL** is used to change settings.

When you are done, press the **EXTERN** button again to exit the Extern menu.

Note that most items on the Extern menu have separate entries for Panel A and B! Whatever Panel has current edit focus when accessing these menu pages, "A" or "B", is shown in the upper right corner of the Display. The following items can be found on the Extern menu:

Function	Description	Range/Values
Extern MIDI Channel	This sets the MIDI channel to transmit to the external instrument from Panel B (make sure the external instrument is set to receive on the same channel).	1-16 (14 is default for Panel A 15 is default for Panel B)
Extern MIDI CC Number	This decides which MIDI Controller number the Extern section should send when MIDI CC is activated.	MIDI CC 0-119 (Default is 2)
Extern MIDI Volume	The Extern section can send MIDI Volume messages (0-127), allowing you to control the level of the external device.	Off (Default), 0-127
Extern MIDI Prog Change	The Extern section can send MIDI Program Change messages (0-127), allowing you to change programs on the external device.	Off (Default), 1-128
Extern MIDI Prog Bank	This allows you to change MIDI Program Bank on the external device. Note that there are many different variations between instruments in how Banks are numbered and accessed via MIDI. Nord Stage always transmits Bank messages as MIDI CC # 32.	Off (Default), 1-128
Extern MIDI CC Value	This will transmit values for the selected MIDI CC number.	Off (Default), 1-127
Send On Load	To avoid transmitting Program Change, Volume or MIDI CC messages when you load a Program in Nord Stage, make sure "Send On Load" is set to "Off" on the Extern menu.	No (Default), Yes

12. Factory Presets and OS

Internal memory

The Operating System, Programs and Piano samples in Nord Stage are stored in a so-called Flash memory. A Flash memory keeps the data also when the power is shut off. Another big advantage is that you can replace data in the Flash memory at any time. This means that you will be able to download OS upgrades and Programs to your Nord Stage from a computer or sequencer without needing to replace or add any new hardware. Nord Stage also features a USB port for quick and easy download of new Piano instrument samples.

The internal sound memory of Nord Stage consists of 21 Banks holding 6 Programs each for a total of 126 Programs. In addition there are the two Live buffer memories, which will continuously store any changes as they are made, and remember these settings after the power is shut off.

Factory presets

All factory Programs of Nord Stage can be replaced. To make sure you don't accidentally overwrite Programs you want to keep, it's a good idea to back up your sounds regularly on a computer or on a hardware sequencer that can record and play back MIDI SysEx. data. For information on how to back up Programs please refer to .

Restoring the factory presets

The factory Programs will be available as a MIDI SysEx file for download at the Clavia web site at http://www.clavia.se. Please refer to for information on how to restore the factory presets.

Downloading Piano instruments via USB

To be able to do this you have to use Clavia's Stage Manager application. With this you will be able to download and add/replace/erase piano sounds in the Flash memory of the Nord Stage. Please visit http://www.clavia.se to download the USB dump application for Mac (OS X) and PC (Windows) - free of charge!
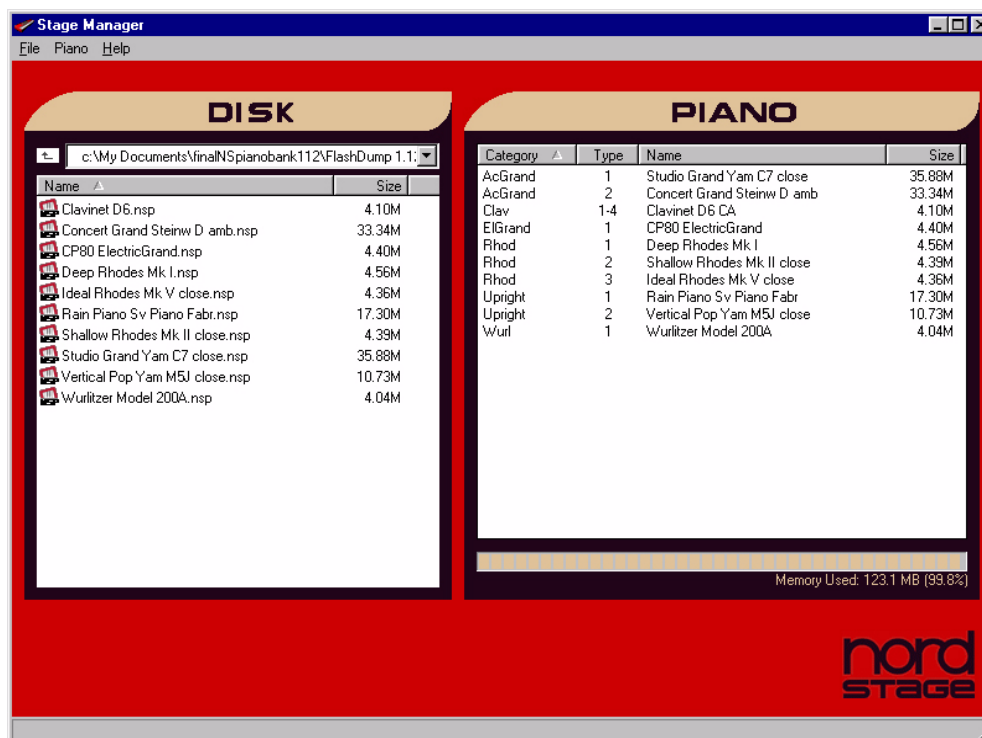
OS upgrades

The latest OS version for Nord Stage will be available for download at http://www.clavia.se.

13. MIDI functions

About the MIDI implementation

The following MIDI messages can be transmitted and received from Nord Stage:

Note On/Off

- Note On and Note Off messages are sended and received.

Pitch Bend

- Pitch Bend messages are sended and received by Nord Stage.

Controllers

- If you have an Control/Expression pedal connected to the **ORGAN SWELL INPUT**, this is transmitted and received as Controller 4.

- If you have an Control/Expression pedal connected to the **CONTROL PEDAL INPUT**, this is transmitted and received as Controller 11 (Expression). By using the Morph function you can control most of Nord Stage's parameters with a Control pedal.

- If you have a sustain pedal connected to the **SUSTAIN PEDAL INPUT**, this is transmitted and received as Controller 64 (Sustain Pedal).

- If you have a sustain pedal connected to the **ROTOR SPEED INPUT**, this is transmitted and received as Controller 90.

- Almost all other controls (knobs and buttons) on the front panel are also transmitted and received as Control Change messages. This can be used to record your actions on the front panel into a MIDI sequencer. For a full list of which parameters correspond to which Controller number, see the MIDI implementation chapter on page 70.

Keyboard Velocity

Nord Stage can transmit and receive Keyboard Velocity messages. Organ sounds will always be played back at nominal level regardless of incoming MIDI Velocity data.

Aftertouch

The Nord Stage keyboard can transmit 'Aftertouch' (sometimes called channel pressure). The player can apply more pressure on a key while it is down; and this will generate a signal that can be used to control parameters - see "About Aftertouch" on page 56.

Program Change

When you select a Program, a Program Change message is transmitted via MIDI on the selected MIDI Channel. If a Program Change message is received on the selected MIDI Channel, Nord Stage will change Program accordingly. The 126 Program locations send and respond to Program Change values 0-125.

MIDI SysEx (System Exclusive)

Single Programs or all Programs can be transmitted and received as a System Exclusive dump (see "Sending Program dumps" on page 68).

Using Nord Stage with a sequencer

Connections

1. Connect the MIDI Out on the Nord Stage to the MIDI In on your sequencer.

2. Connect the MIDI Out from your sequencer to the MIDI In on the Nord Stage.

Local On/Off

Local Off should be used when you use a sequencer to record and play back from Nord Stage. When using a sequencer, you connect the MIDI Out of Nord Stage to the sequencer's MIDI In. Then, from the sequencer's MIDI Out back to the Nord Stage MIDI In. Since the sequencer echoes back incoming MIDI data, Nord Stage will respond normally to your playing and knob tweaking via the MIDI "loop". If you use Local On with a sequencer setup as described above, this would cause "double-triggered" notes when you play; both from the keyboard internally and via the MIDI "loop". Therefore, always use Local Off when used in this way together with a sequencer.
Local On/Off is set on the "MIDI menu" on page 62.

MIDI channel

Nord Stage can be set to respond to 6 individual MIDI channels. This is set up on the MIDI menu - see "MIDI menu" on page 62.

Program Change

To record a Program Change message, activate recording in the sequencer and simply select a new Bank (1-21) and Program (1-6) by using the **PAGE -/+** buttons and the **PROGRAM** buttons, respectively. The 126 Program locations send and respond to Program Change values 0-125.

Controllers

When you record knob movements and button presses, make sure that the sequencer "echoes" the changes back on the correct MIDI Channel, or your changes won't have any effect.

Some notes about Controllers and "Chasing"

Consider a situation where you record a Controller message, e.g. a Drawbar opening, in the middle of your sequencer song. Then you "rewind" the sequencer to a position before the recorded Drawbar opening. The problem is that the Nord Stage's Drawbar will remain opened, although it really should be as it was before you recorded the opening. To solve such problems, several sequencers include a function called "Controller Chasing", which keeps track of Controller changes and tries to adjust the settings on the instrument according to the current position in the sequencer song.
However, in our example this wouldn't help much, because the Drawbar opening was the first Controller message recorded in the song. The sequencer has no information about the Drawbar setting before the recorded change, and therefore cannot "chase" the settings properly. To solve this, you could record a "snapshot" of all Controller settings of the Nord Stage Program(s) at the beginning of your sequencer song. See "Sending MIDI Controller dumps" below.

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Program, Controller and Synth Sound dumps

To dump Program, Synth Sound or MIDI Controller SysEx via MIDI, either to another Nord Stage or for recording the data into another MIDI device, proceed as follows:

Sending Program dumps

1. Connect a cable from **MIDI Out** on the Nord Stage to MIDI In on the receiving device.

2. Set up the receiving device so that it accepts MIDI SysEx and MIDI Controller data.

3. Press **SHIFT + MIDI** button and select the "Dump Program Source" menu item using the **PAGE -/+** buttons. Here you can select whether to send all Programs ('ALL'), or the currently selected program ('ONE') by using the **VALUE DIAL**.

4. If needed, set the receiving MIDI device to "recording mode".

5. Press the **STORE** button to send the dump to the **MIDI OUT** of Nord Stage. The Store indicator will stop flashing once the dump has been sent.

Note: For Organ and Synth sounds, the complete settings for the sound will be dumped as MIDI SysEx. For Piano sounds, all parameters will be sent but NOT the actual instrument samples. Therefore, when dumping back a Piano sound, make sure the actual instrument samples are already loaded in the Nord Stage. Otherwise the parameters in the SysEx message will be applied to another available Piano instrument.

Sending MIDI Controller dumps

1. Set up as in steps 1 and 2 in the preceding description.

2. **PRESS SHIFT + MIDI** button and select the 'Send MIDI Ctrl" menu item using the **PAGE -/+** buttons. Here you can select whether to send all Controllers from Panel A or Panel B by using the **VALUE DIAL** or by pressing the corresponding **PANEL** button.

3. Press the **STORE** button to send the dump to the **MIDI OUT** of Nord Stage. The Store indicator will stop flashing once the dump has been sent.

Sending Synth Sound bank dumps

You can perform a separate MIDI SysEx dump of just the Synth memory banks. You can select to send a single sound category bank (Synth/Pad/Bass) or all banks:

1. Set up as in steps 1 and 2 in the preceding description.

2. **PRESS SHIFT + MIDI** button and select the 'Dump Synth Sound" menu item using the **PAGE -/+** buttons. Here you can select whether to send all Controllers from Panel A or Panel B by using the **VALUE DIAL** or by pressing the corresponding **PANEL** button.

3. Press the **STORE** button to send the dump to the **MIDI OUT** of Nord Stage. The Store indicator will stop flashing once the dump has been sent.

RECEIVE MIDI SYSEX DUMPS

To receive a MIDI SysEx Dump, do like this:

1. Connect a cable from the MIDI Out on the transmitting device to **MIDI IN** on the Nord Stage.

2. Initiate the transmission on the transmitting device.

If the dump contained all Programs (All), it will replace all Programs currently stored in the Nord Stage. If the dump contained only a single Program (One), it will be temporarily placed in the currently selected Program memory location. You will then have to store the Program manually to a memory location using the Store function (see "Storing Programs" on page 19).

PANIC

If notes should hang using the Nord Stage in a MIDI setup, all you need to do is hold down the **SHIFT** button and press the **PANIC** button in the Piano section. This will execute an internal All Notes Off, and reset certain parameters to their default values.

14. MIDI IMPLEMENTATION

MIDI CONTROLLER LIST

The following is a list of the MIDI Controller numbers used for all **KNOBS** and **BUTTONS** on the front panel:

Nord Stage Parameter	MIDI Controller #
Organ Preset II	3
Organ Swell	4
Organ Drawbar 1	9
Organ Drawbar 2	14
Organ Drawbar 3	15
Organ Drawbar 4	16
Organ Drawbar 5	17
Organ Drawbar 6	18
Organ Drawbar 7	19
Organ Drawbar 8	20
Organ Drawbar 9	21
Organ Percussion Enable	22
Organ Type	23
Organ Vibrato Type	24
Organ Vibrato Enable	25
Organ Percussion Harmonic	26
Organ Percussion Speed	27
Organ Percussion Level	28
Organ PStick Enable	29
Piano Clav Filter 1	30
Piano Clav Filter 2	31
Piano Dynamics	33
Synth Glide Rate	34
Synth Glide Auto	35
Synth Voice Mode	36
Synth Unison	37
Synth Vibrato Mode	38
Synth Mod Envelope Attack	39
Synth Mod Envelope Decay	40
Synth Mod Envelope Mode	41
Synth Mod Envelope Velocity	42

Nord Stage Parameter	MIDI Controller #
Synth Oscillator Mode	43
Synth Oscillator Wave	44
Synth Oscillator Timbre	45
Synth Oscillator Timbre Amount	46
Synth Oscillator TimbreVelocity	47
Synth Filter Frequency	48
Synth Filter Resonance	49
Synth Filter Amount	50
Synth Filter Velocity	51
Synth Filter KBT (Keyboard tracking)	52
Synth Filter Type	53
Synth Amp Envelope Attack	54
Synth Amp Envelope Decay	55
Synth Amp Envelope Mode	56
Synth Amp Envelope Velocity	57
Synth EQ Gain Lo	58
Synth EQ Gain Hi	59
Effect 1 Type	60
Effect 1 Source	61
Effect 1 Amount	62
Effect 1 Rate	63
Effect 1 Enable	69
Effect 2 Type	70
Effect 2 Source	71
Effect 2 Amount	72
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MIDI Implementation Chart

Model: Clavia Nord Stage Eighty Eight OS V1.0x Date: 2005-06-29

Function	Transmitted	Recognized	Remarks
MIDI Channels	1 – 16	1 – 16	Individual channels for Panel A and B.
Velocity Note On/Off	O	O	Incoming Velocity data ignored for Organ.
Aftertouch	O	O	
Pitch Bend	O	O	
Control Change	O	O	See "MIDI Controller list" on page 70.
Program Change	O	O	0-125, 126=Live1,127= Live 2
System Exclusive	O	O	See the MIDI Implementation section.

O: Yes
X: No

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